Commissioners, Steve, Therese, Ann, Rod, Dian

SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION
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Agenda Item #8

October 30, 2001

TO: Commissioners and Alternates

FROM: Will Travis, Executive Director (415/352-3653, travis@bcdc.ca.gov)
Nathan L. Newell, Senior Engineer (415/352-3619, nathann@bcdc.ca.gov)

SUBJECT: Staff Recommendation on Permit Application No. 8-01; California Department of Transportation (Caltrans), East Span Replacement for the San Francisco-Oakland Bay Bridge
(For Commission consideration on November 1, 2001)

Recommendation Summary

The staff recommends that the Commission approve BCDC Permit Application No. 8-01 which, as conditioned, would achieve the following:

1. **Project.** The existing 1936 East Span of the San Francisco-Oakland Bay Bridge would be replaced with a new self-anchored, single-tower, steel suspension bridge connected by a concrete skyway structure and approach roadways that would meet current seismic design and traffic safety standards. The replacement bridge would be located on an alignment north of the existing bridge and would be approximately 2.18 miles in length. The replacement bridge would provide the same traffic capacity as currently exists and provide bicycle and pedestrian access from Oakland to Yerba Buena Island (YBI). The new bridge deck would provide five eastbound and westbound traffic lanes and a 10.5-foot-wide, two-way bicycle lane and a five-foot-wide pedestrian lane. The project would result in approximately 45.53 acres of new Bay fill, of which approximately 41.93 acres would be high level, suspended fill to construct the new structure. Removal of the existing East Span would mean the project would result in a net new fill of approximately 32 acres.

2. **Mitigation.** Construction of the new East Span would result in a net fill of 32 acres, of which approximately 8.5 acres is solid fill for new footings, a new Oakland Touchdown, and areas of temporary fill. There would also be potential impacts on fish both through construction activity and the removal of existing eelgrass and shallow subtidal habitat. To offset these impacts, Caltrans would: (a) remove the 1936 East

Span; (b) restore the approximately 1.73-acre barge access channel used to construct the replacement bridge to its pre-construction bathymetry, if Commission policy is changed to allow such restoration; (c) provide $10.5 million to implement a wetlands restoration program which is still being developed, but which may be applied toward the first steps in restoring approximately 3,298 acres of habitat at Skaggs Island in Sonoma County and toward the restoration, enhancement or creation of new aquatic, wetland, or wetland transitional habitat as part of the Eastshore State Park in the Central Bay.

3. **Public Access.** The project would provide approximately 11.6 acres of new public access areas consisting of: (a) an approximately 5.8 acre area on the new East Span improved with a new 15.5-foot-wide bicycle/pedestrian; (b) an approximately 4.2-acre area at the Oakland Touchdown that would both provide a stormwater retention basin for treating stormwater runoff from nearby roadway areas and be designed and landscaped and used in conjunction with the proposed "Gateway Park" in Oakland and improved with a temporary 43 car public access parking lot; and (c) safe connections at both ends of the new East Span trail to existing city streets and path systems.

4. **Resource Protection.** Using best management practices to protect natural resources and water quality during construction and maintenance of the replacement bridge.

Staff Recommendation

The staff recommends that the Commission adopt the following resolution:

I. Authorization

A. Subject to the conditions stated below, the permittee, the California Department of Transportation, District 4 (Caltrans), is granted permission to replace the East Span of the San Francisco-Oakland Bay Bridge with a new self-anchored, single-tower, steel suspension bridge and concrete skyway in the City of Oakland, Alameda County, and in the City and County of San Francisco. Authorized work includes:

In the Bay:

1. **Dredging.** Dredge a total of approximately 616,721 cubic yards of material over approximately 99 acres of the Bay to construct portions of a new 2.18-mile-long replacement bridge for the East Span of the San Francisco-Oakland Bay Bridge (SFOBB) and to remove the existing East Span including:

a. **Construction Barge Access Channel.** Dredge approximately 216,230 cubic yards of material for a barge access channel to construct the new bridge in shallow water areas and dispose of the material at the federally-approved deep ocean disposal site (DODS) outside the Commission's jurisdiction;

b. **Construction Dredging.** Dredge approximately 187,087 cubic yards of material to construct footing piles and pile caps for the new bridge and dispose of the dredged material at the federally-approved SF-11 Alcatraz disposal site within the Commission's jurisdiction, except the upper twelve feet of Piers E1-E6 (Sediment Sampling and Analysis Plan (SAP) testing locations: N1 and N2) and Piers E15-E18 (SAP testing locations: SFOBB N5) which, because of elevated contaminant levels, would be disposed at an approved upland disposal site outside the Commission's jurisdiction;

c. **Demolition Barge Access Channel.** Dredge approximately 190,680 cubic yards of material for a barge access channel to remove the existing East Span and dispose of the material at an approved upland disposal site for wetland reuse, such as Hamilton or Montezuma, within the Commission's jurisdiction, or at an approved deep-ocean disposal site outside the Commission's jurisdiction; and

d. **Demolition Dredging.** Dredge approximately 22,724 cubic yards of material to remove the existing bridge piles, tower foundations and associated fender piles and dispose of the material at the federally-approved SF-11 disposal site within the Commission's jurisdiction.

2. **Temporary Bay Fill.** Place, use and, at project completion, remove a total of approximately 62,911 cubic yards of temporary Bay fill covering approximately 14.14 acres of Bay surface area to construct portions of a new 2.18-mile-long replacement bridge for the East Span of the SFOBB including:

a. **Yerba Buena Island Transition/Suspension Span.** Place, use, maintain and, at project completion, remove: (1) approximately 81 cubic yards of temporary, pile supported fill covering approximately 0.40 acres for a barge access dock at Clipper Cove to facilitate delivery of construction materials, equipment and personnel to the project site; (2) approximately 60 cubic yards of temporary, pile-supported fill covering approximately 0.13 acres for portions of a construction access trestle to serve as a construction platform and small boat dock and to facilitate moving of construction materials, equipment, and personnel at the east end of YBI; (3) approximately 1.60 acres of temporary, high-level suspended fill to construct portions of "falsework" to support bridge segments until adjoining structures are completed; (4) approximately 2,776 cubic yards of temporary submerged fill for "falsework" piers; and (5) approximately 12,072 cubic yards of temporary, submerged fill to construct portions of two cofferdams;

b. **Skyway.** Place, use, maintain and, at project completion, remove: (1) approximately 199 cubic yards of temporary, pile-supported fill covering approximately 1.73 acres for a construction access trestle to serve as a construction platform and small boat dock and to facilitate moving construction materials, equipment and personnel; (2) 6.17 acres of temporary, high-level suspended fill for "falsework" to support bridge segments until adjoining structures are completed; (3) 592 cubic yards of temporary, submerged fill for "falsework" piers; and (4) 26,928 cubic yards of temporary, submerged fill for 28 cofferdams;

c. **Oakland Touchdown Structures and Approaches.** Place, use, maintain and, at project completion, remove (1) approximately 508 cubic yards of pile-supported fill covering approximately 3.46 acres for portions of a construction access trestle to serve as a construction platform and small boat dock and to facilitate moving

construction materials, equipment and personnel; (2) approximately 0.48 acres of temporary, low and high-level suspended fill for "falsework" to support bridge segments until adjoining structures are completed (this "falsework" would fall within the footprint of the construction access trestle and therefore would not contribute to the overall area of temporary fill); (3) approximately 695 cubic yards of temporary, submerged fill for portions of "falsework" piers; and (4) approximately 1,500 cubic yards of temporary, submerged fill for seven cofferdams;

d. **Geofill.** Place, use, maintain and, at project completion, remove: (1) approximately16,667 cubic yards of temporary, solid fill covering approximately 0.65 acres for portions of a 1,970-linear-foot-long tidal berm in areas north of the Oakland Touchdown. The temporary "geotube" structure, which is a large diameter, water permeable geotextile fabric, would enclose dredged and/or excavated material and protect the work area from tidal and wave action while installing wick drains and placing fill for the westbound roadway; and (2) approximately 833 cubic yards of solid fill covering approximately 0.10 acres for a temporary tidal berm northwest of the Oakland Touchdown to facilitate relocation of the Caltrans maintenance road (the area of the temporary tidal berm would fall within the footprint of the maintenance road and the shadow of the elevated eastbound roadway, both of which are accounted for as permanent Bay fill).

3. **Permanent Bay Fill.** Place and use a total of approximately 103,253 cubic yards of permanent Bay fill covering approximately 45.53 acres of Bay surface area to construct portions of a new 2.18-mile-long replacement bridge for the East Span of the SFOBB:

   a. **YBI Transition/Suspension Span.** Place, use and maintain: (1) approximately 16,786 cubic yards of permanent, submerged fill for footing piles and pile caps; (2) approximately 2,502 cubic yards of permanent, submerged fill for pier fenders; (3) approximately 8.01 acres of permanent, high-level suspended fill for portions of a self-anchored, asymmetrical suspension bridge and cast-in-place, pre-stressed concrete bridge approaches, electrical service platforms, lighting and safety barriers; (4) approximately 0.65 acres of permanent, high-level suspended fill for portions of a bicycle and pedestrian path, one belvedere (view platforms) and safety railings; and (5) repair, retrofit, replace and/or relocate existing drainage outfalls, drainage facilities and utilities and install new outfalls as approved by the Regional Water Quality Control Board (RWQCB);

   b. **Skyway.** Place, use and maintain: (1) approximately 32,819 cubic yards of permanent, submerged fill for footing piles and pile caps; (2) approximately 4,210 cubic yards of permanent, submerged fill for pier fenders; (3) approximately 27.36 acres of permanent, high-level suspended fill for a pre-cast or cast-in place, post tensioned concrete skyway bridges, service platforms, utility platforms, lighting and safety barriers; and (4) approximately 2.97 acres of permanent, high-level suspended fill for a bicycle and pedestrian path, five belvederes and safety railings;

   c. **Oakland Touchdown Structures and Approaches.** Place, use and maintain: (1) approximately 1,354 cubic yards of permanent, submerged fill for footing piles and footing pile caps; (2) approximately 10 cubic yards and 2.79 acres of permanent, low and high-level suspended fill for portions of a cast-in-place, pre-stressed, concrete box-girder bridge, electrical service platforms, lighting and safety barriers; (3) approximately 0.15 acres of permanent, low and high-level suspended fill for portions of a bicycle and pedestrian path and safety railings; (4) repair, retrofit, replace and/or relocate existing drainage outfalls, drainage facilities and utilities and install new outfalls as approved by the RWQCB; and (5) pavement, retaining structures, and safety barriers on Bay fill for the westbound roadway and relocate the Caltrans maintenance road; and

d. **Maintenance Road and Shoreline Protection**. Place, use and maintain a total of approximately 67,284 cubic yards of fill to be comprised of: (1) approximately 44,272 cubic yards of permanent, engineered, solid and earthen fill covering approximately 3.31 acres for the westbound roadway and rock slope protection. The new touchdown perimeter would be created by excavating to an elevation of approximately minus 2.6 feet NGVD and backfilling with clean fill material to match the elevations of the Oakland Approach. Vertical wick drains would be placed to purge water during consolidation of the surcharge material and to provide a drainage path for pore water during a seismic event. All water that drains from the substrate through the wick drains and vertical drains would flow through gravel blankets into the Bay; (2) approximately 1,300 cubic yards of engineered solid and earthen fill covering approximately 0.29 acres to relocate the Caltrans maintenance road; (3) approximately 21,712 cubic yards of engineered rock slope protection to be used as shoreline protection and as upland transition habitat; and (4) repair, retrofit, replace and/or relocate and, existing drainage outfalls, drainage facilities and utilities.

4. **On-Site Restoration.** Restore on-site, north of the Oakland Touchdown area, approximately 3.07 acres of sand flats and eelgrass beds temporarily impacted by activities associated with constructing portions of a new 2.18 mile-long replacement bridge for the East Span of the SFOBB including:

   a. **Harvest/Replant Eelgrass.** Harvest approximately 0.54 acres of eelgrass from the footprint of the barge access channel prior to dredging and plant test plots in adjacent eelgrass beds north of the Oakland Touchdown area;

   b. **Restore Sand Flats.** Restore approximately 0.80 acres of sand flats north of the Oakland Touchdown area that would be affected by the placement of a temporary tidal berm and/or mud boils to their pre-construction elevations and substrate;

   c. **Upland Transition.** Construct and maintain rock slope protection (rip-rap) at the Oakland Touchdown area along the new westbound roadway and create slope gradients of 1(V):3(H) at the toe of the slope which will transition to a 1(V):2(H) gradient at mid-slope, cap rock slope protection areas with soil above the limits of tidal action and plant with native plant species that will help to create upland transition areas and roosting habitat for shorebirds; and

   d. **Shorebird Roosting Habitat.** Construct approximately 500 square feet of permanent, pile-supported decks for shorebird roosting habitat north of the Oakland Touchdown area.

5. **Demolition of Existing Span.** Remove the existing SFOBB East Span to approximately minus 1.5 feet below the existing mud line and dispose or recycle the bridge debris at an approved location outside the Commission's jurisdiction including:

   a. Remove, dispose and/or recycle approximately 12.5 acres of mostly high-level suspended fill comprised of painted steel, concrete, and other materials for the bridge deck and superstructure;

   b. Remove, dispose and/or recycle approximately 74,144 cubic yards of submerged fill comprised of concrete and other materials for the bridge piers and footing piles; and

   c. Remove and dispose approximately 4,685 cubic yards of solid fill for pier fenders comprised of treated wood and other materials.

6. **Repair, Replace and Maintain Improvements**. Repair, replace and maintain on an in-kind basis only, all improvements authorized in the Bay to the plans and specifications approved by or on behalf of the Commission.

Within the 100-foot shoreline band:

1. **Temporary Shoreline Band Structures.** Place, use, maintain and, at project completion, remove a total of approximately 0.73 acres of temporary structures to construct portions of a new 2.18 mile-long replacement bridge for the East Span of the SFOBB including:

   a. **YBI Transition/Suspension Span.** Place, use, maintain and, at project completion, remove: (1) approximately 65 square feet for portions of a temporary, pile-supported construction access trestle to serve as a construction platform and small boat dock to facilitate moving construction materials, equipment, and personnel; (2) approximately 0.13 acres of temporary, high-level suspended structures for portions of "falsework" to support bridge segments until adjoining structures are completed; (3) 420 square feet for temporary "falsework" piers; (4) 248 square feet for portions of temporary cofferdams; (5) 0.09 acres for a temporary construction staging area; (6) 0.16 acres to temporarily relocate a portion of the USCG Road; and (7) 0.15 acres to temporarily relocate a portion of the Torpedo Factory Road;

   b. **Oakland Touchdown Structures and Approaches.** Construct, use, maintain and, at project completion, remove: (1) approximately 0.16 acres for portions of temporary "falsework" piers; (2) approximately 344 square feet for portions of cofferdams; and (3) temporary construction staging areas, at Pier 7 and Berth 9 at the Port of Oakland and the former Oakland Army Base; and

   c. **Geofill.** Construct, use, maintain and, at project completion, remove: (1) approximately 527 square feet for portions of an approximately 1,970-foot-long, geotube to temporarily protect the work area from tidal and wave action and to facilitate installation of wick drains and the placement of fill for the westbound roadway.

2. **Permanent Shoreline Band Structures.** Place, use and maintain a total of approximately 8.17 acres of new, permanent structures for portions of a new 2.18 mile-long replacement bridge for the East Span of the SFOBB including:

   a. **YBI Transition/Suspension Span.** Construct, use and maintain: (1) approximately 452 square feet for permanent, support piers, footing piles and footing pile caps; (2) approximately 1.01 acres of permanent, high-level, suspended structures for the self-anchored, asymmetrical suspension bridge and cast-in-place, pre-stressed concrete bridge approaches, electrical service platforms, lighting and safety barriers; (3) approximately 0.10 acres of permanent, high-level suspended structures for portions of a bicycle and pedestrian path and safety railings; and (4) repair, retrofit, replace and relocate, existing drainage outfalls, drainage facilities and utilities and install new outfalls as approved by the RWQCB;

   b. **Oakland Touchdown Structures and Approaches.** Construct, use and maintain: (1) approximately 334 square feet of permanent support piers, footing piles and pile caps; (2) approximately 1.31 acres of permanent low and high-level suspended structures for portions of a cast-in-place, pre-stressed, concrete box-girder bridge, electrical service platforms, lighting and safety barriers; (3) approximately 0.19 acres of permanent, low and high-level suspended structures for portions of a bicycle and pedestrian path and safety railings; (4) approximately 2.46 acres of pavement for the at-grade westbound roadway and approximately 0.61 of pavement for the at-grade eastbound roadway; (5) repair, retrofit, replace and relocate, existing drainage outfalls, drainage facilities and utilities and install new outfalls as approved by the RWQCB; (6) approximately 0.84 acres of pavement for the at-grade Caltrans maintenance road; and (7) place pavement, retaining structures, and safety barriers on the fill for the westbound roadway and relocate the Caltrans maintenance road; and

3. **Off-Bridge Treatment of Stormwater.** Collect and treat stormwater runoff from approximately 155 acres (six catchment groups) of existing Caltrans right-of-way at the Oakland Touchdown in the City of Oakland to Powell Street in the City of Emeryville by installing and maintaining best management practices (BMP's) including, but not limited to, biofilters, gross solids removal devices, bio-retention systems, wet ponds, and associated drainage system piping improvements, pump stations, and conveyance features.

4. **On-Site Restoration.** Restore and repair, in-kind and as needed, areas disturbed by construction activities including, but not limited to, natural features such as landscaping, shoreline slopes, beaches, and constructed features such as buildings, utilities, roadways and other structures.

5. **Repair, Replace and Maintain Improvements.** Repair, replace and maintain on an in-kind basis only, all authorized improvements to the plans and specifications approved by or on behalf of the Commission.

B. This authority is generally pursuant to and limited by the application filed on October 17, 2001, including all accompanying and subsequent correspondence and exhibits, but subject to the modifications required by conditions hereto.

C. Work authorized herein must commence prior to January 1, 2003, or this permit will lapse and become null and void. All work must also be diligently prosecuted to completion, and must be completed by January 1, 2010, unless an extension of time is granted by amendment of the permit.

D. The project authorized herein will result in approximately 45.53 acres of new Bay fill, of which approximately 41.93 acres is high level, suspended fill that will have minimal impacts on Bay resources. The net increase in Bay fill after removing the existing bridge will be approximately 33 acres. However, because the new support footings and pilings will be significantly smaller than the existing bridge footings, the project will result in a net increase of 173,806 cubic yards in the Bay's volume. The project includes a number of mitigation measures to offset the impacts of the solid and pile-supported fill, as well as the impacts of construction activity. These mitigation measures include, among other things: (a) removing the 1936 East Span, (b) restoring the approximately 1.73-acre barge access channel used to construct the replacement bridge to its pre-construction bathymetry, if Commission policy is changed to allow such restoration; and (c) providing $10.5 million to implement a wetlands restoration program that is still being developed, but which may be applied toward the restoration of approximately 3,298 acres of habitat at Skaggs Island in Sonoma County and toward the restoration, enhancement or creation new aquatic, wetland, or wetland transitional habitat as part of the East Bay State Park in the Central Bay. In addition, the project will provide approximately 5.8 acres of new public access and a 15.5-foot-wide pedestrian and bicycle lane across the new structure, a total of six belvederes, an interim parking lot at the Oakland Touchdown and a path terminus at YBI.

II. Special Conditions

The authorization made herein shall be subject to the following special conditions, in addition to the standard conditions in Part IV:

A. Specific Plans and Plan Review

1. **Plan Review.** Work authorized herein may be completed under multiple construction contracts. No work shall commence under an individual construction contract until final precise grading, drainage, mobilization, staging, site, engineering, architectural, landscaping, public access and shoreline clean-up plans and other relevant criteria, specifications, and plan information for that portion of the work, for each specific contract, have been submitted to, reviewed, and approved in writing by or on behalf of the Commis-

sion. The specific drawings and information required will be determined by the Commission staff. To save time, preliminary drawings should be submitted and approved prior to final drawings. No changes to the design of the project shall be made without the prior written approval by or on behalf of the Commission.

a. **Grading, Drainage, Mobilization, Staging, Site, Architectural, Landscaping, and Public Access Plans.** Site, architectural, landscaping and public access plans shall include and clearly label the mean high tide line, or, in areas with marsh vegetation, the line 5.0 feet above mean sea level, the line 100 feet inland of the mean high tide line or the 5.0 feet above mean sea level, property lines, the boundaries of all areas to be reserved for public access purposes and open space, details showing the location, types, dimensions, and materials to be used for all structures, irrigation, landscaping, drainage, erosion control, seating, parking, signs, lighting, fences, paths, trash containers, utilities and other proposed improvements;

b. **Engineering Plans.** Engineering plans shall include a complete set of contract drawings and specifications and design criteria. The design criteria shall be appropriate to the nature of the project, the use of any structures, soil and foundation conditions at the site, and potential earthquake-induced forces. Final plans shall be signed by the professionals of record and be accompanied by:

   (1) Evidence that the project design complies with all applicable Caltrans design standards and all other applicable codes; and

   (2) Evidence that an independent or in-house peer review panel has reviewed the project (except that such evidence may be waived by the staff, upon consultation with the Chair of the Engineering Criteria Review Board (ECRB), if peer review is determined not to be necessary).

2. **Plan Requirements.** Plans submitted shall be accompanied by a letter requesting plan approval, identifying the type of plans submitted, the portion of the project involved, and indicating whether the plans are final or preliminary. Approval or disapproval shall be based upon:

   a. Completeness and accuracy of the plans in showing the features required above, particularly the mean high tide line or the line 5.0 feet above mean sea level, property lines, and the line 100-feet inland of the mean high tide line or the +5.0 contour line mean sea level, and any other criteria required by this authorization;

   b. Consistency of the plans with the terms and conditions of this authorization;

   c. The provision of the amount and quality of public access to and along the shoreline and in and through the project to the shoreline required by this authorization;

   d. Consistency with legal instruments reserving public access and open space areas;

   e. Assuring that any fill in the Bay does not exceed this authorization and will consist of appropriate shoreline protection materials as determined by or on behalf of the Commission;

   f. Consistency of the plans with the recommendations of the Design Review Board, as applicable;

   g. Consistency of the plans with the recommendations of the Engineering Criteria Review Board; and

   h. Assuring that appropriate provisions have been incorporated for safety in case of a seismic event.

   Plan review shall be completed by or on behalf of the Commission within 45 days after receipt of the plans to be reviewed.

3. **Conformity with Final Approved Plans.** All work, improvements, and uses shall substantially conform to the final approved plans. Prior to any public use of the facilities authorized herein, the appropriate design professional(s) of record shall certify in writing that, through personal knowledge, the work covered by the authorization has been performed in accordance with the approved design criteria and in substantial conformance with the approved plans. No noticeable changes shall be made thereafter to any final plans or to the exterior of any outside fixture, railing lighting, landscaping, signage, parking area, public access amenities, or shoreline protection work without first obtaining written approval of the change(s) by or on behalf of the Commission.

4. **Discrepancies between Approved Plans and Special Conditions.** In case of any discrepancy between final approved plans and Special Conditions of this authorization or legal instruments approved pursuant to this authorization, the Special Condition or the legal instrument shall prevail. The permittee is responsible for assuring that all plans accurately and fully reflect the Special Conditions of this authorization and any legal instruments submitted pursuant to this authorization.

B. **Public Access**

1. **Area.** The permittee shall make the following areas available exclusively to the public for unrestricted public access for walking, bicycling, sitting, viewing, and other related purposes. If the permittee wishes to use the public access area for other than public access purposes, it must obtain prior written approval by or on behalf of the Commission.

   a. **Oakland Touchdown.** The approximately 4.2-acre area at the Oakland Touchdown shown on Exhibit A that shall be incorporated into the East Bay Regional Park District's Gateway Park to the extent the permittee is legally able to do so. Provision of this land for use as part of the "Gateway Park" shall be subject to Caltrans' existing and future operational and maintenance needs as may be approved by or on behalf of the Commission, such as providing stormwater BMPs to treat stormwater runoff, providing continuing access to serve, install and maintain existing, and necessary future utilities and providing access to maintain the new East Span and at grade roadways. New utilities and stormwater facilities shall be designed so as to be consistent with recreation and public access uses in the area.

   b. **YBI.** The 2,153-square-foot area at YBI connecting the bridge trail with public streets on YBI.

2. **Guarantee.** Prior to the dismantling of the existing East Span, but in no case later than December 31, 2009, the permittee shall, by instrument or instruments acceptable to counsel for the Commission, dedicate to a public agency or otherwise guarantee such rights for the public for so long as the improvements authorized herein remain in place to the new approximately 4.25 acre public access area at the Oakland Touchdown and at YBI to be comprised of: (1) a 4.2-acre parcel, within the existing bridge approach, to improve public access and treat storm-water runoff as part of the proposed Gateway Park; (2) a 0.37 acre area to be used as a temporary parking lot and crosswalk that will eventually become part of the proposed Gateway Park; (3) a 0.25 acre public access path connecting the parking lot to the bicycle/pedestrian path on the replacement bridge, and (4) a 2,153-square-foot area to be used as a public access path terminus at YBI. The instrument(s) shall create rights in favor of the public which shall commence no later than after completion of construction of any public access improvements required by this authorization and prior to the use of the replacement bridge authorized herein. Such instrument(s) shall be in a form that meets recordation requirements of either Alameda or San Francisco County, as applicable, and shall include a legal description of the property being restricted and a map that clearly shows and labels the mean high tide line or the +5.0 foot contour line above mean sea level in marshlands, and other appropriate

landmarks and topographic features of the site, such as location and elevation of the top bank of any levees, any significant elevation changes, and the location of the nearest public street and adjacent public access areas. Approval or disapproval of the instrument(s) shall occur within 30 days after submittal for approval and shall be based on the following:

a. Sufficiency of the instrument to create legally enforceable rights and duties to provide the public access area required by this authorization;

b. Inclusion of an exhibit to the instrument that clearly shows the area to be reserved with a legally sufficient description of the boundaries of such area; and

c. Sufficiency of the instrument to create legal rights in favor of the public for public access that will run with the land and be binding on any subsequent purchasers, licensees, and users.

3. **Recordation of the Instrument(s).** Within 30 days after approval of the instrument(s), the permittee shall record the instrument(s) in each relevant County and shall provide evidence of recording to the Commission. No changes shall be made to the instrument(s) after approval without the express written consent by or on behalf of the Commission.

4. **Improvements Within the Total Public Access Area.**

a. **Oakland Touchdown.** A portion of the approximately 4.2-acre public access area will be used by the permittee to treat stormwater runoff from adjacent roadways. The approximately 4.2-acre area will also be an integral part of Gateway Park adjacent to the Oakland Touchdown. This area shall include the following improvements:

(1) **Parking Lot.** An approximately 43-stall, all-weather (crushed rock, gravel or paved) temporary parking lot, which shall be paved and made permanent if desired to be retained, or completely removed if no longer needed, as determined by or on behalf of the Commission, in consultation with the East Bay Regional Park District;

(2) **Pathway.** A 15.5-foot-wide paved path connecting the bicycle/pedestrian path on the new East Span with the parking lot and the Caltrans maintenance road;

(3) **Crosswalk.** A crosswalk providing safe access across the temporary parking lot;

(4) **Landscaping.** Irrigation and appropriate landscaping within the approximately 4.2-acre area, around the parking lot, in the stormwater retention basins to the extent feasible, and adjacent to the public access path and other public access areas, in accordance with a plan submitted to, reviewed by, and approved by or on behalf of the Commission in accord with Special Condition II-A. The plan and program shall contain the following: (a) a topographic map of the site in one-foot contours (all elevations shall be relative to National Geodetic Vertical Datum (NGVD)); (b) proposed plant species along the contour lines according to their expected zone of growth (for the stormwater BMPs only); (c) a safe, attractive, and obvious path system connecting the public access on the bridge with public access on Burma Road as required by BCDC Permit No. 11-93; (d) a management program for water and vegetation in the stormwater BMPs that integrates treating stormwater runoff with providing habitat and attractive public access landscaping; and (e) a schedule indicating when planting will occur. The permittee may maintain any BMP's including those that are vegetated, to ensure effective and efficient conveyance and treatment of stormwater runoff in accord with a plan approved pursuant to Special Condition II-A; and

(5) **Public Signs.** No fewer than six public access and, where appropriate, Bay Trail signs, one at the entrance of the temporary parking, one at the beginning of the public access path entrance located at the temporary parking lot, one located near the public access path adjoining the bridge at the Oakland Touchdown, one for each traffic direction on the maintenance road accessing the parking lot and one for each traffic direction located on Burma Road directing the public to the bicycle and pedestrian path and parking lot. The number, type, and locations of the signs shall be approved by or on behalf of the Commission pursuant to Special Conditon II-A above.

b. **YBI Connector and Terminus.** This approximate 2,153-square-foot (0.05 acres) public access area will be designed to provide both a terminus for the bicycle/pedestrian path on the new East Span and for its eventual connection to public trails on YBI. This area shall include the following improvements:

(1) **YBI Path Terminus.** A pedestrian and bicycle terminus at YBI to be used as the western-most end of the public access path across the new East Span, including a 15.5-foot-wide paved and separated bicycle/pedestrian path;

(2) **Landscaping.** Irrigation and native and drought resistant landscaping adjacent to the public access path and terminus; and

(3) **Public Signs.** No fewer than three public access and, where appropriate, Bay Trail signs, one located at the entrance to the YBI path terminus, one at the entrance of the public access path entrance located near the YBI path terminus and connector, one located near the public access path adjoining the bridge at the YBI path connector ramp directing the public to the bicycle and pedestrian path. The number, type, and locations of the signs shall be approved by or on behalf of the commission pursuant to Special Condition II-A above.

c. **New East Span.** The new East Span shall be designed to provide six (6) viewing platforms (belvederes) adjacent to the 15.5-foot-wide pedestrian and bicycle path located on the new bridge. This span shall include the following improvements:

(1) A total of five (5), approximately 158-square-foot belvederes, each with a total of approximately 16 to 24 linear feet of light weight seating elements, located along the Skyway portion of the new bridge; and

(2) One (1) approximately 263-square-foot belvedere with a total of approximately 24 to 36 linear feet of light-weight seating element, located on the suspension portion of the new bridge.

5. **Maintenance.** The areas and improvements within all of the new public access areas required or authorized herein, including the YBI terminus, the Oakland Touchdown, and the belvederes and path on the new East Span, totaling approximately 11.6 acres, shall be maintained by and at the expense of the permittee or its assignee for so long as the improvements authorized herein remain in place. In addition, to ensure the fill authorized for the bicycle and pedestrian pathway is retained for such use, such pathway shall also be maintained by and at the expense of the permittee or its assignee for so long as the fill authorized herein remains in place. Such maintenance shall include, but is not limited to, repairs to all path surfaces, replacement of any trees or other plant materials that die or become unkempt, repairs or replacement as needed of any public access amenities such as pathways, signs, benches, trash containers and lights; periodic cleanup of litter and other materials deposited within the access areas, removal of any encroachments into the access areas, removal of graffiti; and assuring that the public access and Bay Trail signs remain in place and visible. Within 60 days after notification by staff, the permittee shall correct any maintenance deficiency noted in a staff inspection of the site.

6. **Assignment.** The permittee may transfer maintenance responsibility to a public agency or another party acceptable to the Commission at such time as the property transfers to a new party in interest but only provided that the transferee agrees in writing, acceptable to counsel for the Commission, to be bound by all terms and conditions of this permit.

7. **Reasonable Rules and Restrictions.** Caltrans may impose reasonable rules and restrictions for the use of the public access areas required pursuant to Special Conditions II-B-2 above to correct particular problems that may arise. Other such limitations, rules, and restrictions shall have first been approved by or on behalf of the Commission upon a finding that the proposed rules would not significantly affect the public nature of the area, would not unduly interfere with reasonable public use of the public access areas, and would tend to correct a specific problem that Caltrans has both identified and substantiated. Rules may include restricting hours of use and delineating appropriate behavior.

8. **Handicapped Accessible.** All public access facilities authorized or required herein shall be designed and built so that they are handicapped accessible.

9. **Public Access Connections.** Within one year of the commencement of construction on any future public access areas and shoreline paths on the adjacent shoreline properties at either end of the new East Span, the permittee shall complete installation of shoreline paths to connect the shoreline paths and public access areas on the adjacent properties to the paths and public access areas required herein. The permittee shall reasonably coordinate design, construction, and maintenance with the owners and/or project sponsors of the adjacent properties to connect the public access areas and shoreline paths required herein with any future public access areas and shoreline paths proposed on the adjacent properties to create a continuous public access area. The exact type and locations of the connector paths shall be approved by or on behalf of the Commission pursuant to Special Condition II-A.

C. **Bridge Railings.** The new concrete safety barriers along vehicular travel lanes on the new East Span shall not exceed 32 inches in height. The new bridge railing along the Bay side of the new pedestrian/bicycle path shall not exceed 55 inches in height. Bridge railings shall be designed to provide motorists with the maximum feasible views of the Bay. The design of the bridge railings must be reviewed by or on behalf of the Commission to ensure this objective is achieved and shall not be installed until the design is approved in writing.

D. **Dredging.**

1. **Water Quality Approvals.** At least 45 days prior to the commencement of any dredging episode authorized herein, the permittee shall submit to the Executive Director water quality certification and waste discharge requirements, and/or any other required approvals from the California Regional Water Quality Control Board, San Francisco Bay Region, for that episode. Failure to obtain such certification prior to the commencement of the dredging episode shall terminate the Commission's authorization for that dredging episode. The Executive Director may, upon review of the Regional Board approval, either: (1) approve the dredging episode(s) as consistent with this authorization; or (2) amend the Commission approval to modify existing or include additional conditions related to water quality. If the Executive Director amends the permit to change or add permit conditions, this permit shall become null and void unless the permittee agrees to amend this authorization in a manner specified by or on behalf of the Commission.

2. **Nine-Year Permit for Dredging.** The approximately 616,721, cubic yards or less of dredging authorized by this permit shall be completed within nine years of the date of issuance. No further dredging is authorized by this permit.

3. **Dredging Report**

   a. **Prior Notice of Episode.** The permittee shall notify the staff by telephone or in writing at least seven (7) days prior to undertaking any dredging episode. The permittee shall permit the Commission staff or representatives of other state or federal agencies to come aboard the dredge or barge associated with the dredging or disposal episode and observe the operation to ensure that the dredging or disposal activity is consistent with the dredging report required herein and the other terms and conditions of this permit.

   b. **Dredging Report.** Within thirty (30) days of completion of each dredging episode of the dredging authorized by this permit, the permittee shall submit to the Commission a report which contains: (1) a bathymetric map showing (a) the location of all areas authorized to be dredged and the authorized depth based on Mean Lower Low Water (MLLW); and (b) the actual areas, and the depth dredged based on MLLW, and any dredging that occurred outside the area authorized to be dredged or below the authorized depths; (2) a vicinity map showing the disposal site; and (3) the actual volume of the material dredged and disposed. The Commission reserves the right to have such report inspected by a reliable third party familiar with bathymetric mapping in order to verify the contents of the report. If a third party selected by or on behalf of the Commission indicates that the report is inaccurate, the Commission reserves the right to require the permittee to submit a revised report that meets the requirements of this condition. If the Commission determines that the contents of the dredging report indicate that work has occurred beyond that authorized by the permit, such violation may result in the initiation of enforcement action by or on behalf of the Commission.

   c. **Dredging Updates.** Every ninety (90) days after the start of dredging operations, the permittee shall submit to the Executive Director updates of the dredging operation plan which describe the dredging activities that occurred within the previous reporting period, including: (1) the location of all areas authorized to be dredged and to what depth based on Mean Lower Low Water (MLLW); (2) the actual areas dredged and to what depth based on MLLW, and any dredging that occurred outside the area authorized to be dredged or below authorized depths; (3) a vicinity map showing the disposal sites; (4) the actual volume of the material dredged and disposed; and (5) the volume of the material disposed of in the Bay. In addition, the updates of the dredging operation plan required herein shall include a plan, as described in Special Condition II-D-3, for the proposed dredging activities to occur during the next reporting period.

   d. **Final Dredging Reports.** Within thirty (30) days of completion of each dredging episode of the new dredging authorized by this permit, the permittee shall submit to the Commission a report which contains a bathymetric map showing: (1) the location of all areas authorized to be dredged and to what depth based on Mean Lower Low Water (MLLW); (2) the actual areas dredged and to what depth based on MLLW, and any dredging that occurred outside the area authorized to be dredged or below authorized depths; (3) a vicinity map showing the disposal sites; (4) the actual volume of the material dredged and disposed; and (5) the volume of the material disposed of in the Bay. The Commission reserves the right to have such a report inspected by a reliable third party familiar with bathymetric mapping in order to verify the contents of the report. If a third party selected by or on behalf of the Commission indicates that the report is inaccurate, the Commission reserves the right to require the permittee to submit a revised report that meets the requirements of this condition. If the Commission determines that the contents of the dredging

report indicate that work has occurred beyond that authorized by the permit, such violation may result in the initiation of an enforcement action against the permittee by or on behalf of the Commission.

4. **Herring.** To protect important fisheries or migrating anadromous fish species, approval of any dredging activities between December 1 and March 1 of any year shall be made by or on behalf of the Commission only upon the finding that: (1) a dredging or disposal operation which was begun prior to December 1 of any year could not be completed by the December 1 deadline due to unforeseen delays; (2) a professional biologist, or other individual sufficiently competent to identify herring spawning activity, is at the project site during all dredging operations; and (3) if herring spawning is detected at or within 200 meters of the dredging operations by the permittee's on-site biologist or qualified staff person, Department of Fish and Game personnel, or the Commission staff, all dredging will cease within eight hours of notification of the project engineer for a minimum of 14 days or until it can be determined that the herring hatch has been completed and larval herring concentrations have left the site. To facilitate rapid and efficient communication under these circumstances, the permittee shall provide the Commission staff and Department of Fish and Game personnel with all necessary telephone, FAX, and pager numbers of the Resident Engineer. Dredging may be resumed thereafter at the sole discretion of the permittee and the Commission staff, but shall be terminated no later than December 31 of that year, or if further spawning takes place at the site

5. **Barge Overflow Sampling and Testing.** Results of any effluent water quality or other testing required by the San Francisco Bay Regional Water Quality Control Board shall be submitted in writing to the Commission's office at the same time that such testing is submitted to the Regional Board.

6. **In-Bay Disposal.** At least 45 days prior to the commencement of any disposal episode authorized herein, the permittee shall submit a written statement to the Executive Director that contains all of the following: (1) the dates within which the dredging and disposal episode is proposed; (2) the total volume of material proposed to be dredged and location of the proposed disposal in the Bay; (3) an explanation as to why ocean or upland disposal of the material is infeasible; (4) an explanation as to how the proposed disposal is consistent with the U.S. Army Corps of Engineers' management of the disposal site so as to maintain adequate site capacity; and (5) results of chemical and biological testing of material proposed for disposal. The authorization for the dredging and disposal episode shall become effective only when either: (1) the Executive Director informs the permittee in writing that he or she has determined that the episode is consistent with the authorization provided herein, that there is no feasible upland alternative available for the dredged material, that sufficient capacity exists at the disposal site consistent with the long-term management of the disposal site, and that the material is suitable for in-Bay disposal; or (2) the Executive Director does not respond to the permittee's written statement within 30 days of its receipt. If the Executive Director either: (1) determines that ocean or upland disposal of the material is feasible; (2) determines that the material is unsuitable for in-Bay disposal; or (3) is informed by the U.S. Army Corps of Engineers that the proposed disposal would unacceptably reduce disposal site capacity, then such determination shall terminate the Commission's authorization for in-Bay disposal as part of that dredging episode.

7. **Upland Disposal of Material Unsuitable for Aquatic Disposal.** Any dredged material that is determined to be unsuitable for aquatic disposal or for use in marsh restoration at Hamilton or Montezuma or similar site by the Dredged Materials Management Office and the Regional Water Quality Control Board shall be disposed of in an appropriate

manner at an upland location outside the Commission's jurisdiction. Prior to the disposal of any such material, the permittee shall submit to the Commission documentation which contains the proposed date and location for the disposal of this material. After the disposal, the permittee shall submit evidence that the material was disposed in an appropriate manner.

8. **Upland Reuse of Dredged Material**. The permittee shall make every effort to dispose as much dredged material as possible that is suitable for such use at upland reuse sites, or at marsh restoration sites such as Hamilton or Montezuma.

9. **Seasonal Limitations.** No dredging or disposal work inconsistent with the time and location limits contained in Tables F-1 and F-2 of Appendix F, "In-Bay Disposal and Dredging" of the *Long-Term Management Strategy (LTMS) Management Plan* may be conducted without the written approval of the Executive Director, provided that such approval may only be issued after (1) BCDC consults with the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the California Department of Fish and Game or any combination thereof, as determined by the Executive Director; and (2) any required consultation with the appropriate resource agencies pursuant to state or federal endangered species acts has been completed. Such approval, if granted, shall not affect the permittee's obligation to comply with all applicable federal and state laws.

10. **Dredged Material Management Office (DMMO).** Prior to the commencement of dredging and disposal of dredged material for removal of the existing bridge the permittee shall:

    a. Submit a sediment analysis plan to the DMMO for its review;

    b. Adequately characterize the sediment to be dredged and disposed; and

    c. Submit to the DMMO for its review the test results and findings of the material to be dredged and disposed so that a subsequent suitability determination can be made.

E. **Riprap**

1. **Riprap Material.** Riprap material shall be either quarry rock or specially cast or carefully selected concrete pieces free of reinforcing steel and other extraneous material and conforming to quality requirements for specific gravity, absorption, and durability specified by the California Department of Transportation or the U. S. Army Corps of Engineers. The material shall be generally spheroid-shaped. The overall thickness of the slope protection shall be no more than three feet measured perpendicular to the slope. Use of small concrete rubble, concrete pieces with exposed rebar, large and odd shaped pieces of concrete, and asphalt concrete as riprap is prohibited. The permittee may salvage and re-use existing riprap as part of the shoreline protection work at the Oakland Touchdown.

2. **Riprap Placement.** Riprap material shall be placed so that a permanent shoreline with a minimum amount of fill is established by means of an engineered slope not steeper than two (horizontal) to one (vertical). The slope shall be created by the placement of a filter layer protected by riprap material of sufficient size to withstand wind and wave generated forces at the site.

3. **Riprap Plans**

    a. **Design.** Professionals knowledgeable of the Commission's concerns, such as civil engineers experienced in coastal processes, should participate in the design of the shoreline protection improvements authorized herein.

b. **Plan Review.** No work whatsoever shall be commenced on the shoreline protection improvements authorized herein until final riprap plans have been submitted to, reviewed, and approved in writing by or on behalf of the Commission pursuant to Special Condition II-A. The plans shall consist of appropriate diagrams and cross-sections that: (1) show and clearly label the mean high tide line, or a line five feet above Mean Sea Level in marshland, property lines, grading limits, and details showing the location, types, and dimensions of all materials to be used; (2) indicate the source of all materials to be used; and (3) indicate who designed the proposed shoreline protection improvements and their background in coastal engineering and familiarity with the Commission's concerns. Approval or disapproval of the plans shall be based upon: (1) completeness and accuracy of the plans in showing the features required above; (2) consistency of the plans with the terms and conditions of this permit; (3) assuring that the proposed fill material does not exceed this permit; (4) the appropriateness of the types of fill material and their proposed manner of placement; and (5) the preparation of the plans by professionals knowledgeable of the Commission's concerns, such as civil engineers experienced in coastal processes. All improvements constructed pursuant to this permit shall conform to the final approved plans. No changes shall be made thereafter to any final plans or to the constructed shoreline protection improvements without first obtaining written approval of the change(s) by or on behalf of the Commission.

4. **Maintenance.** The shoreline protection improvements authorized herein shall be regularly maintained by, and at the expense of the permittee(s), any assignee, lessee, sublessee, or other successor in interest to the project. Maintenance shall include, but not be limited to, collecting any riprap materials that become dislodged and repositioning them in appropriate locations within the riprap covered areas, replacing in-kind riprap material that is lost, repairing the required filter fabric as needed, and removing debris that collects on top of the riprap. Within 30 days after notification by the staff of the Commission, the permittee or any successor or assignee shall correct any maintenance deficiency noted by the staff.

F. **Mitigation for Fill Impacts.** The permittee shall fully complete the following mitigation measures to minimize Bay fill and offset the adverse impacts of the project authorized herein on Bay-related resources and endangered species:

1. **Removal of the Existing East Span of the SFOBB.** Within two years of opening the eastbound roadway of the new East Span to vehicular traffic, the permittee shall completely remove the existing East Span of the SFOBB covering approximately 12.5 acres of high-level suspended fill for the bridge deck, trusses and girders and approximately 78,829 cubic yards of solid fill of the support piers and footings and pier fenders. All material from the existing East Span shall be removed and disposed at an authorized location outside of the Commission's jurisdiction. The permittee shall remove all pilings, support piers and footings to at least 1.5 feet below the existing mudline, and shall restore the affected areas to the original or existing contours and approximate soil composition. Prior to removal of the existing East Span, the permittee shall prepare and submit a removal plan to be approved by or on behalf of the Commission to ensure that the removal plan does not adversely impact Bay-related resources, endangered species, navigation and public health and safety and that sufficient safeguards are included to protect human safety and capture all demolition debris and related substances .

2. **Removal of Temporary Structures.** Within one year of opening the eastbound roadway of the new East Span to vehicular traffic, the permittee shall remove approximately 62,911 cubic yards of pile-supported fill covering approximately 14.14 acres of Bay surface area for the temporary access trestles, cofferdams, and "falsework", and the

17,500 cubic yards of solid fill for the temporary geotube, and shall dispose of all material at authorized locations outside the Commission's jurisdiction. All temporary pilings shall be removed to at least 1.5 feet below the existing mudline.

3. **Marsh and Upland Plant Protection During Construction.** The work authorized by this permit shall be performed in a manner that will prevent, avoid, or minimize to the extent possible any significant adverse impact on any tidal marsh, other sensitive wetland resources, and existing native upland vegetation. If any unforeseen adverse impacts occur to any such areas as a result of the activities authorized herein, the permittee shall restore the area to its previous condition, including returning the disturbed area to its original elevation and soil composition and, if the area does not revegetate to its former condition within one year, the permittee shall seed all disturbed areas with appropriate vegetation consistent with plans approved by or on behalf of the Commission. The permittee shall employ mitigation measures to minimize impacts to wetland areas, such as: (1) minimizing all traffic in marsh, mudflat and sandflat areas; (2) fencing environmentally sensitive areas during construction to prevent intrusion into such areas; and (3) carefully removing, storing, and replacing wetland vegetation that has been removed or "peeled back" from construction areas as soon as possible following construction.

4. **Revegetation and Excess Lands.** Within one year of opening the replacement bridge to vehicular traffic or within one year of completing construction in adjacent areas, whichever is earlier, the permittee shall revegetate the approximately 4.2-acres area at the Oakland Touchdown required under Special Condition II-B, and all shoreline areas impacted by the project, to the extent that such areas fall within the Commission's jurisdiction. The permittee shall coordinate its design of all landscape plans with local city agencies and any other government entity that have an interest in the project and shall strive to use native, drought tolerant landscaping that is appropriate to the micro-climatic conditions of the Central Bay. The permittee shall also work the East Bay Regional Park District, the Oakland Army Base Reuse Authority, the Port of Oakland, the City of Oakland, the Regional Water Quality Control Board, and all other interested agencies to develop a plan for the treatment of any surplus land. The plans for revegetation of disturbed areas and the disposition of surplus land shall be approved by or on behalf of the Commission pursuant to Special Condition II-A.

5. **Onsite Eel Grass Bed and Sand Flat Restoration.** Prior to dredging the barge access channel, the permittee shall transplant all eel grass found in the barge access channel footprint and replant them in adjacent areas currently supporting stands of eelgrass. As part of this effort, the permittee shall, in consultation with the Department of Fish and Game and the National Marine Fisheries Service, develop an experimental transplanting program to determine critical factors to the success of transplanting, growing, and sustaining eelgrass. Such a program shall be approved by or on behalf of the Commission, pursuant to Special Condition II-A, and shall include an annual monitoring report every year starting October 1 of the year following the year that eelgrass is transplanted, that identifies any adverse conditions affecting the success of the transplanting program, any corrective action taken to address these adverse conditions, the relative success of transplants under a variety of conditions as compared to nearby reference sites, successful procedures that promote the establishment and long-term success of eelgrass, coordination with the Port of Oakland's Middle Harbor Eelgrass program, etc. Should the Commission's policy on fill for wildlife areas be revised at any time prior to the use of the replacement bridge, the permittee shall, after seeking and receiving approval for amending this authorization, restore the bathymetry and soil composition of the barge access channel area to its original condition prior to construction, and transplant eel grass to the restored channel. In addition, all sand flats temporarily affected at the pro

ject site shall be fully restored to their bathymetry and soil conditions existing prior to disturbance or fill placement. A geotextile fabric shall be placed prior to any fill placement to facilitate fill removal and site restoration.

6. **Coordination with Appropriate Wildlife Agencies to Minimize Impacts to Birds.** Prior to any construction authorized herein, the permittee shall submit for review and concurrence by or on behalf of the Commission evidence, such as a contract and/or agreement with the U.S. Fish and Wildlife Service, the U.C. Santa Cruz Predatory Bird Research Group and/or the Point Reyes Bird Observatory, that will ensure compliance with the terms of the Biological Opinion issued by the U.S. Fish and Wildlife Service with respect to the peregrine falcon, California least tern and the brown pelican.

   In addition, prior to any construction activities authorized herein, the permittee shall submit for review and concurrence by or on behalf of the Commission, evidence that a plan designed to minimize adverse impacts, such as handling procedures approved by the California Department of Fish and Game, in consultation with the Point Reyes Bird Observatory, to the double-crested cormorant *(Phalacrocorax auritus)* colony which exists on the support beams and scaffolding underneath the bridge and other migratory bird nesting and breeding on the structure is in place. Such evidence shall include the name and phone number of the individual(s) at the California Department of Fish and Game and the Point Reyes Bird Observatory, and the parties responsible for ensuring that the handling procedures are followed.

7. **Creation of Bird Roosting Habitat.** Prior to dredging the barge access channel, the permittee shall develop a plan, in consultation with the California Department of Fish and Game and the U.S. Fish and Wildlife Service and local Audubon chapters, and approved by or on behalf of the Commission pursuant to Special Condition II-A, to create approximately 500 square feet of shorebird roosting habitat in the Emeryville Crescent and at other suitable areas near the Oakland Touchdown. The shorebird roosting plan shall include provisions for monitoring shorebird use of the created roosting habitat (monthly bird counts at appropriate tidal stages between September and April for a five-year period), for maintaining sites free of vegetation and, for pile-supported structures, securely anchored, and for removing such habitat if it deteriorates sufficiently to create a potential safety or navigation problem, as determined by the Executive Director. Such shorebird roosting habitat may consist of pilings, pile-supported or floating docks, unvegetated beach and riprap areas, etc. The permittee shall install the approved shorebird roosting habitat by October 1, 2004.

8. **Coordination with Appropriate Wildlife Agencies to Minimize Impacts to Eelgrass Beds.** Prior to any construction authorized herein, the permittee shall submit for review and concurrence by or on behalf of the Commission, pursuant to Special Condition II-A, a plan designed to minimize adverse impacts to the existing eelgrass *(Zostera marina)* beds that has been reviewed and approved by the National Marine Fisheries Service, the California Department of Fish and Game, and/or the U.S. Fish and Wildlife Service. The approved plan shall include pre- and post-monitoring surveys of the existing eelgrass beds, silt curtains and operational limitations to minimize turbidity in eelgrass beds and an experimental transplanting and relocation program if determined necessary by the wildlife agencies. Such evidence shall include the name and phone number of the individual(s) at the National Marine Fisheries Service, the California Department of Fish and Game or the U.S. Fish and Wildlife Service responsible for reviewing and approving the plan and the parties responsible for ensuring that the plan is adhered to. Any monitoring reports prepared pursuant to the approved plan shall be sent to the Commission, as well as the final report which assesses the results of the eelgrass mitigation measures.

9. **Coordination with Appropriate Wildlife Agencies to Minimize Impacts to Fish During Pile-Driving.** Prior to any construction authorized herein, the permittee shall submit for review and concurrence by or on behalf of the Commission, pursuant to Special Condition II-A, a plan that has been reviewed and approved by the National Marine Fisheries Service, the California Department of Fish and Game, and/or the U.S. Fish and Wildlife Service designed to minimize the adverse impacts to fish during project construction. Caltrans shall adhere to the conditions of the biological opinion for this project, which requires that up to $500,000 will be made available by Caltrans prior to the initiation of construction activities on the East Span Project for monitoring fisheries impacts, sound pressure levels, and other environmental conditions associated with pile driving. Additional mitigation for fish, developed in consultation with the National Marine Fisheries Service and the California Department of Fish and Game, shall be required if monitoring indicates that significant fish kills are occurring that are related to pile-driving activities.

10. **Off-Site Mitigation Program.** Prior to any construction authorized herein, the permittee shall create a fund in the Commission's name and deposit the sum of $10.5 million in an interest bearing account to be dispersed, in its entirety, including principal and interest, solely to restore Bay shallow water submerged land and wetland habitat. Preference for using the funds set aside for mitigation shall be (a) Skaggs Island, consisting of the removal of contaminated buildings to facilitate the transfer of the Navy-owned portion of the site (approximately 3,289 acres) to the U.S. Fish and Wildlife Service so as to restore it to tidal marsh; and (b) Eastshore State Park sites in the Central Bay, including but not limited to Radio Beach, Brickyard Cove, Albany Beach or Hoffman Marsh. A portion of this fund may be used to remove contaminated buildings at Skaggs Island only if: (1) the money is used to remove the buildings in a timely manner (i.e. within two and a half years); (2) that only that amount of funds needed to remove the buildings is expended, with the remaining funds available for Central Bay restoration; and (3) that removal facilitates the restoration of Skaggs Island to a tidal wetland as part of an approved restoration plan and schedule. The Eastshore State Park sites shall include at a minimum restoration of 5.0 acres of sand flats at a 1 to 1 ratio, 3.6 acres of eelgrass beds at a 3 to 1 ratio (minus eelgrass beds restored at the project site) so as to offset the damage caused by the project. Revisions to this formula may be approved by or on behalf of the Commission, in consultation with the agencies included above. Before the funds are dispersed to any proposed mitigation site, Caltrans shall, in consultation with the entity proposing to restore one of the mitigation sites described above, develop a mitigation plan that conforms to the requirements of Special Condition II-F-11 below. If, however, for any reason the sites identified above have not been restored or opened to tidal action by July 1, 2004, or the funds for the project approved by or on behalf of the Commission have not been encumbered for the authorized work, the earmarked funds shall be returned to the mitigation fund and Caltrans shall identify other potential mitigation site(s) for approval by or on behalf of the Commission, in consultation with the California Department of Fish and Game, Regional Water Quality Control Board, U.S. Army Corps of Engineers, U.S. EPA, and National Marine Fisheries Service. Preference will be given to projects involving sandflat and eelgrass restoration in Central San Francisco Bay, or projects that provide significant natural resource benefits to the entire Bay.

11. **Marsh Restoration Work and Plans.** Any project that receives money from the mitigation fund shall include a marsh restoration plan and program, to be approved by or behalf of the Commission, for the eventual restoration of the site, and shall contain the following:

a. **Site Conditions and Modifications.** A topographic map of the site at one-foot contour intervals and a topographic map showing any proposed site modifications. All elevations shall be relative to National Geodetic Vertical Datum (NGVD). The map shall include typical cross-sections showing the proposed marsh plain elevations, any channels, and any high spots. The map shall show: (1) figures for the ratios of typical horizontal to vertical slopes for existing and proposed marsh surface, channels, and sloughs; (2) proposed plant species along the cross-sections according to their expected zone of growth; (3) the elevation of adjacent surrounding properties; and (4) figures for the estimated tidal range related to Mean Higher High Water, Mean High Water, Mean Lower Low Water, Mean Sea Level, the maximum predicted tide, and the 100-year tide. To promote natural sedimentation and colonization of the site, constructed elevations shall generally be six to twelve inches lower than target elevations.

b. **Soil Information.** The program shall include a report identifying the type of soils found at the site, at a nearby reference site, and the soil type of any fill to be imported to the site. Information shall be provided on the quantitative soil measurements of soil texture and dry density for soils at the site, at the reference site, and for all imported soils. All imported soils must be within 10% of the range of values found at the reference marsh for soil qualities such as grain size, organic content, salinity, and pH.

c. **Planting and Seeding Plan.** The restoration plan shall include a list of the vegetation proposed to be planted, an irrigation plan for watering upland and transitional plants until they are established, and a maintenance plan. Such plans shall include a program for eliminating nonnative or invasive vegetation and preventing the establishment of nonnative or invasive vegetation at the site.

d. **Schedule.** The program shall include a schedule indicating when excavation, fill, and grading will occur, the time to be allowed for settlement, and the time when planting will occur. For Skaggs Island, the schedule should provide a time line for the actions needed before the site will be returned to tidal action, and the objectives and measures that can implemented in the interim to enhance the site's natural resource functions.

e. **Identification of a Suitable Reference Site.** The program shall identify nearby reference sites that shall be evaluated as part of the monitoring program and shall provide a reference for evaluating the progress of the restoration site.

f. **MOA/MOU.** The plan and program shall include all executed MOA's/MOU's and cost agreements that establish the responsibilities between the permittee, and any other government entity implementing the mitigation work for the permittee, including designing, constructing and monitoring any mitigation work.

g. **Monitoring.** Every year, starting October 1 of the year following the return of the site to tidal action for a fifteen-year, or until those portions of the restoration site subject to tidal action are approximately 95% vegetated as compared with nearby reference marshes (or eelgrass beds), or for sandflats, until benthic sampling indicates similar biomass, whichever occurs first, the permittee shall report to the Commission on the effects of the project in restoring the target habitat (tidal marsh or transitional habitat or eelgrass beds or sandflats) at the restoration site. The report shall include measuring sedimentation rates, percentage of the site revegetated, plant survival, approximate percentage representation of different plant species, and a qualitative assessment of plant growth rates for the tidal restoration area, including adjacent transitional and upland habitats. Undesirable exotic plant species such as pepperweed (*Lepidium latifolium*), *Spartina alterniflora*, broom, or star thistle shall be reasonably controlled (coverage of less than 5 percent of their expected zone of

growth) during the fifteen-year monitoring period. Should adverse conditions be identified during the fifteen-year monitoring period, the permittee shall take corrective action as specified by or on behalf of the Commission.

G. **Horizontal Control Points.** As shown on the plans required by Special Condition II-A, the permittee shall install a minimum of four permanent horizontal control points of the type and at specific locations at the East Span of the SFOBB site approved by or on behalf of the Commission. The permittee shall place these control points under the supervision of a registered civil engineer or land surveyor, and shall be accurately located and mapped in relation to each other, to the closest known existing control point or other acceptable fixed point in the project area, and to the limits of any proposed fill in the Bay. The permittee shall locate these control points to facilitate field checking, with simple equipment, of the limits of the fill authorized pursuant to this authorization. Such fill limits shall be dimensioned form these control points, or, if the scale of the drawing is adequate, it shall carry a note stating that the field dimensions may be scaled from the drawing and the accuracy of such scaling, e.g., "Field dimensions to an accuracy of +/- may be scaled from the drawing." The permittee shall clearly show these control point locations on all plans submitted pursuant to the Special Conditions II-A.

H. **Temporary Construction Access.** Any fill placed for construction access and work platforms shall be pile-supported or floating only, and shall be approved prior to their installation pursuant to Special Condition II-A. The permittee is strictly prohibited from using solid fill in the Bay for construction access and work platform purposes with the exception of the minimum amounts necessary of earthen fill to create the minimum necessary grade transitions from the land to pile-supported work platforms, install the geotube to construct the westbound roadway, and the tidal berm for the Caltrans maintenance road.

I. **Debris Removal.** All construction debris shall be removed to a location outside the jurisdiction of the Commission. In the event that any such material is placed in any area within the Commission's jurisdiction, the permittee, its assigns, or successors in interest, or the owner of the improvements, shall remove such material, at its expense, within ten days after it has been notified by the Executive Director of such placement.

J. **Hazardous Materials Removal and Remediation.** The permittee shall ensure that it performs any removal, remediation, encapsulation or disposal of hazardous or toxic materials, such as lead-based paint, consistent with the requirements of the U.S. Environmental Protection Agency and any applicable local, state and federal laws.

K. **Non-Point Source Pollution Control.** The permittee shall implement all appropriate and necessary best management practices (BMP's) to minimize the discharge of non-point source pollutants to the Bay during and after construction. The BMP's shall be consistent with applicable local, state and federal laws and any required waste discharge requirements, NPDES permits and stormwater pollution prevention plans and shall be shown on the plans required under Special Condition II-A.

L. **Construction and Maintenance Operations.** All construction operations and ongoing repair and maintenance activities shall be performed to prevent construction materials from falling into the Bay. In the event that such material escapes or is placed in an area subject to tidal action of the Bay, the permittee shall immediately retrieve and remove such material at its expense.

M. **Creosote Treated Wood.** No pilings or other wood structures that have been pressure treated with creosote shall be used in any area subject to tidal action in the Bay or any certain waterway, in any salt pond, or in any managed wetland within the Commission's jurisdiction as part of the project authorized herein.

N. **Placement and Use of the Construction Barges and Coordination with the U.S. Coast Guard.** Prior to the use of any barges in the Bay, the permittee shall first submit evidence that their use complies with the U.S. Coast Guard Checklist and the Dredging Operation Plan and updates required pursuant to Special Condition II-D.

O. **Mud Waves.** The permittee shall implement reasonable measures to prevent the creation of mud waves as a result of project construction. Should the project result in the formation of a mud wave, the permittee shall remove the mud wave and, after review and approval by or on behalf of the Commission pursuant to Special Condition II-A, implement measures to correct the conditions that led to mud wave formation.

P. **Notice to Contractor.** The permittee(s) shall provide a copy of this permit to any contractor or person working in concert with the permittee(s) to carry out the activities authorized herein and shall point out the special conditions contained herein.

Q. **Commission Jurisdiction Over Fill Area.** Notice is hereby given that, under the McAteer-Petris Act, the area of the approved project that is within the Commission's jurisdiction under Section 66610(a) remains within that jurisdiction even after fill or substantial change in use, authorized by the Commission, may have changed the character of the area; so that the permittee or the permittee's successors in interest will require further action by or on behalf of the Commission prior to any future change of use or work within areas filled pursuant to this authorization.

R. **Recording.** The permittee shall record this document or a notice specifically referring to this document with the City and County of San Francisco and Alameda County within 30 days after execution of the permit issued pursuant to this authorization and shall, within 30 days after recordation, provide evidence of recordation to the Commission.

S. **New Buildings.** To minimize intrusion in proposed public access and recreational areas, and to maximize visual access to the Bay, any new buildings proposed in the Oakland Touchdown area as part of this new East Span shall be designed and located to be compatible with existing buildings in the area, and to be clustered with them, to the maximum extent feasible.

T. **Maintenance Road Landscaping.** Landscaping for the maintenance road in the Oakland Touchdown, particularly where the road separates west and east bound travel lanes, shall be submitted and approved in accord with Special Condition II-A. Such landscaping plan shall clearly denote the end of the bridge and the beginning of dry land, and serve as a gateway to the East Bay.

U. **Conformity with State Historic Preservation Requirements.** Caltrans shall fully comply with all requirements of the State Historic Preservation Office regarding the historical preservation and/or interpretation of the existing East Span of the Bay Bridge and any other existing buildings south of the bridge approach at the Oakland Touchdown

V. **Debris Removal for Demolition and Capping.** All construction debris from the demolition of the existing bridge that is determined to be inert, non-hazardous, and non-toxic may be deposited within the footings of the existing bridge to an elevation of minus 10-feet below the pre-construction mudline elevation. Any construction debris that is placed within footings of the existing bridge shall be fully contained and shall not leach into the existing water column. All construction debris from the demolition of the existing bridge that is determined to be hazardous, toxic, or deleterious to the environment shall be removed to a location outside the jurisdiction of the Commission. In the event that any such material is placed in any area within the Commission's jurisdiction, the permittee, its assigns, or successors in interest, or the owner of the improvements, shall remove such material, at its expense, within ten days after it has been notified by the Executive Director of such placement. After the disposal, the permittee shall submit evidence that the material was disposed in an appropriate manner.

III. Findings and Declarations

This permit is issued based on the Commission's findings and declaration that the authorized work is consistent with the McAteer-Petris Act, and the *San Francisco Bay Plan*, and the Commission's amended management program for the San Francisco Bay segment of the California coastal zone and that the project is statutorily exempt from the California Environmental Quality Act for the following reasons:

A. **Bay Fill.** Section 66605 of the McAteer-Petris Act states that further filling of San Francisco Bay should be authorized only when public benefits from fill clearly exceed public detriment from the loss of water areas and should be limited to water-oriented uses, including bridges. In addition, the Commission should authorize fill only when no alternative upland location is available, the fill is the minimum amount necessary, and the nature, location and extent of fill minimizes the harmful effects to the Bay. The project will replace the existing East Span of the Bay Bridge, constructed in 1936, with a replacement bridge that will meet current seismic design criteria.

1. **Public Benefits v. Public Detriment.** The major public benefit of this project is to seismically upgrade the East Span of the Bay Bridge. The replacement bridge will be designed as a lifeline structure (constructed to a higher standard to provide necessary post-disaster functionality), built to withstand a major earthquake, thereby improving public safety and reducing economic disruption during a large earthquake. Failure of the bridge would not only lead to likely loss of life, but would severely disrupt emergency response efforts, and subsequent economic recovery of the Bay region. The new span will also greatly enhance views of the Bay from the bridge and will reduce congestion by providing ten-foot-wide shoulders on the inside and outside of the traveled way for each traffic direction, thereby providing safer access for disabled vehicles and bringing this Interstate highway current with AASHTO and other highway design and safety codes. The bridge replacement will also provide public access where none has previously existed and will include significant public benefits through the mitigation package.

2. **Use.** The McAteer-Petris Act and the *San Francisco Bay Plan* identify bridges as water-oriented use for which some fill can be authorized.

3. **Alternative Upland Location.** There is no practical alternative upland location for the replacement bridge as it provides a vital east-west link from Oakland to the West Span of the Bay Bridge and ultimately to the City of San Francisco. Retrofitting the existing bridge has already been found by the Commission to be an infeasible option because a retrofitted bridge, during a seismic event, would be more likely to fail than a new replacement bridge. In addition, a retrofitted bridge would have a more limited lifespan than a new bridge. Thus, a replacement bridge provides significant economic and safety benefits over retrofitting the existing East Span.

4. **Minimum Fill.** This project involves placing a total of approximately 103,253 cubic yards of permanent solid fill in the Bay which will cover approximately 45.5 acres of Bay surface area. Approximately 41.93 acres of this fill will be pile-supported or suspended high above the Bay. Such fill typically has relatively few impacts to Bay-related resources. Approximately 3.03 acres of the authorized fill will consist of solid or earth fill for westbound roadway and the Caltrans maintenance road. Caltrans will (1) remove the existing East Span, including all footings to 1.5 feet below the mudline; (2) remove temporary pilings associated with construction trestles and "falsework" to at least 1.5 feet below the mudline; and (3) remove any temporary cofferdams to at least 1.5 feet below the mudline. Because the existing East Span has a greater number of footings than the proposed new bridge, footings which are also larger than the proposed new bridge footings, the project will result in a net *increase* of 173,806 cubic yards in the Bay's volume.

In an effort to reduce the fill associated with the new bridge, Caltrans evaluated a number of project alternatives and project modifications. For example, the existing Bay Bridge contains two roadways in a double deck structure with westbound traffic on the top deck and eastbound traffic on the lower deck. While involving less Bay fill, this configuration is not as seismically reliable as two parallel roadbeds. Moreover, a parallel roadbed configuration will give the bridge a more slender visual profile and will provide eastbound motorists with sweeping views of Oakland, Berkeley and the East Bay hills. Although a replacement structure with parallel roadways will approximately double the amount of the Bay covered by the bridge, the bulk of this coverage will be high above the Bay and cause limited environmental impacts.

An alignment built immediately south of the existing East Span could possibly result in less Bay fill, but would potentially reduce the amount of space available for future park uses south of the Bay Bridge toll plaza and would impact Coast Guard operations at YBI. Also, the new northern alignment provides better views for motorists.

A pile-supported, eastern touchdown would also result in less Bay fill compared to the proposed solid fill for the touchdown. However, the Engineering Design Advisory Panel (EDAP), which included all the members of the Commission's Engineering Criteria Review Board (ECRB) and the Design Review Board (DRB), concluded that in the event of a major earthquake, the solid fill option would provide a greater degree of safety over the pile-supported fill option. Additionally, the modes of failure of a pile-supported fill structure make it less easily and quickly repaired than solid fill, which even if it cracks or settles, may only require additional overlays to repair. A pile-supported fill structure may need to be torn down completely and rebuilt (or require a substantial retrofit in and near the Bay) depending on the damage that occurs.

Caltrans' evaluation of these and other alternatives was aided by EDAP. As various alternatives were being evaluated, the Commission was asked for guidance on some of the alternatives being considered. At the Commission meeting of June 18, 1998, the Commission was briefed and voted to support EDAP's recommendations that the replacement structure should be a single-tower, self-anchored suspension bridge joined to the East Bay shoreline by a causeway, and that a bicycle and pedestrian path should be provided along the south side of the new bridge. At the Commission meeting of November 4, 1999, the Commission was briefed and voted to support EDAP's recommendation that the Oakland Touchdown area should be built on solid fill rather than be pile-supported.

Some fill could possibly be eliminated by reducing the size of the maintenance road at the Oakland Touchdown, or by narrowing the space between the two parallel roadways as they land at the Oakland Touchdown. Caltrans proposed to use an approximately 48-foot-wide separation between the east and west-bound structures for the majority of the alignment. The structure separation narrows down to approximately 40 feet as it approaches the Oakland Touchdown and this alignment is maintained on the solid fill approach. Caltrans states that the American Association of Street and Highway Transportation Official's (AASHTO) criteria were used for this design separation width. Both the Commission's ECRB and DRB have recommended that a constant "clear distance" be maintained throughout the majority of the replacement bridge. A 40-foot-wide separation between the two roadways will allow construction of a maintenance road with two twelve-foot lanes, two shoulders and a median that will be designed to the minimum recommended criteria. Caltrans believes that the size of the maintenance road cannot be further reduced because: (1) the maintenance road will be located between the westbound and eastbound roadways and is critical for emergency and service vehicle access. The maintenance road will serve as the primary access route for emergency vehicles responding to accidents on the bridge as well as the primary circulation road for accessing the median toll facility from the current maintenance facility to the south of

eastbound I-80 in the future. However, it is uncertain how effective the shoulders and medians will be for emergency purposes since conceptual landscaping plans indicate planting of these areas; (2) reducing the width of the maintenance road and its median and shoulders would be less than the minimum criteria specified by AASHTO's *Policy on Geometric Design of Highways and Streets* for a road of this intended purpose. AASHTO design criteria are guidelines that are typically less restrictive with regard to driver comfort and safety than Caltrans' design guidelines, as embodied in the Caltrans *Highway Design Manual*. The design section widths specified above will provide the minimum space for the operation of emergency service vehicles while also providing sufficient room for passing disabled vehicles. This is an important design feature as the response time of emergency vehicles is key to realizing the intended use of the maintenance road and ensuring public safety; thus, it would be very undesirable for the maintenance road to be narrowed at this location; (3) given the restrictive geometric configuration at the westbound alignment where the minimum separation is present, reversing curves will be required to bring the westbound alignment closer to the maintenance road and eastbound alignment. Because reversing curves are required, the westbound roadway cannot be shifted by a uniform distance. Due to the short distance within which the reversing curves will occur, an alternative alignment will not be able to meet Caltran's minimum requirements for curve lengths and central angles; and (4) if the alignment were to be changed at the Oakland Touchdown to reduce Bay fill there would be additional costs associated with the redesign of this location and potential delays to the construction schedule.

Finally, there could be some potential to reduce the size and amount of the temporary fill to facilitate construction of the bridge. Caltrans will place a total of approximately 62,910 cubic yards of temporary fill in the Bay for temporary pile-supported structures such as docks, "falsework", access trestles and/or temporary cofferdams covering approximately 14.20-acres of Bay surface area. Of the temporary fill, approximately 0.8 acres of temporary solid fill may also be placed to protect and isolate construction areas. Caltrans has identified a likely construction scenario that the contractor may implement to construct the new bridge. This includes the use of a temporary barge dock at YBI and construction access trestles for the main span, the skyway, and the Oakland approach. According to Caltrans, "these structures would be designed using the minimum fill necessary that would allow for construction access, transportation and the use of large construction equipment, such as cranes and pile drivers, and safe working platforms for personnel." However, it is possible that the contractor may choose to utilize a different size, configuration and/or siting of docks and access trestles. The size of the falsework, falsework piers and cofferdams are a function of the bridge size itself. It is Caltrans' opinion that the temporary fill associated with these structures cannot be further minimized unless the diameter of the piles and pile caps and the cross-section of the bridge deck are also reduced, which would affect seismic safety and traffic capacity. The construction methodology for the Oakland Approach and the Skyway portion of the new bridge will allow the contractor with the lowest qualified bid some latitude between the pre-cast segmental alternative and the cast-in-place alternative only through a cost reduction incentive proposal.

Thus, while a double-deck bridge would result in less fill than two parallel spans. The East Span bridge replacement will: (a) improve public safety by replacing the 1936 span with a new structure that meets current seismic design and traffic safety standards and will provide a lifeline connection that will provide post-earthquake access to link major population centers, emergency relief routes, emergency supply and staging centers; (b) provide the minimum amount of permanent fill that will accommodate EDAP, DRB and ECRB recommendations for seismic safety; (c) provide the minimum amount of permanent fill to construct a maintenance road, that will meet current design codes, to allow access to the median toll facility and facilitate emergency vehicle response to

access the bridge; (d) provide the minimum amount of temporary fill during the construction phase of this project; and (e) provide a net increase of 173,806 cubic yards in the Bay's volume through removal of existing bridge footings.

The Commission finds that Special Condition II-F included in this authorization is necessary to ensure that the Bay fill will not adversely impact Bay-related resources and endangered species. Therefore, as conditioned herein, the Commission finds the public benefits of the project outweigh the detriments caused by the Bay fill, and that the fill is consistent with Section 66605 of the McAteer-Petris Act in accordance with the Commission's laws and policies on the manner and purpose of placing fill in San Francisco Bay.

B. **Mitigation.** In part, the Bay Plan policies on mitigation state that mitigation for the unavoidable adverse environmental impacts of any Bay fill should be considered by the Commission in determining whether the public benefits of a fill project outweigh the public detriment from the loss of water areas due to the fill. Whenever mitigation is necessary, the mitigation program should assure: (a) that the benefits from the mitigation will be commensurate with the adverse impacts on Bay resources and consist of providing area and enhancement resulting in characteristics and values similar to the characters and values adversely affected; (b) that the mitigation will be at the project site or as close as possible; (c) that the mitigation measures will be carefully planned, reviewed and approved by or on behalf of the Commission, and subject to reasonable controls to ensure success, permanence and long-term maintenance; and (d) that the mitigation will, to the extent possible, be provided concurrently with those parts of the project causing adverse impacts.

Generally, the adverse impacts associated with bridge construction will include: (a) the disruption, displacement, excavation, and burying of existing benthic communities; (b) the creation of shade, which can affect water and soil temperature and influence an area's plant and animal communities; (c) the modification of existing hydraulic characteristics of the surroundings by altering shorelines, or the placement of bridge support structures in the Bay, which can result in the dampening of wave energy, the creation of eddies, the altering of water circulation thus potentially increasing the rate of sedimentation or erosion in adjacent areas; (d) the creation of barriers to animal use of an area and animal movement between areas; and (e) construction noise which can disrupt animal communication, stun, or kill nearby fish.

More specifically, the project will impact approximately 8.59 acres of shallow water habitat (less than 10 feet deep) including eelgrass beds and sandflats. State and federal resource agencies have identified a number of federally and state listed endangered species that are known to occur in the area, including the Winter and Spring-run Chinook Salmon, and the Steelhead Trout.

For the majority of bridge projects, the Commission has required mitigation for the adverse impacts of associated fill by requiring the permittee to: (a) enhance habitat values in existing degraded tidal marshes by excavating channels and improving tidal circulation. Such enhancement projects always involve improvements to significantly larger areas than that covered by a bridge; (b) contribute funds on a pro-rata basis to a mitigation bank where the amount of the contribution is directly related to the cost of acquiring, restoring, monitoring and maintaining an area as tidal wetland habitat; and/or (c) excavate an adjoining upland to create a tidal marsh equal or greater in size to the area of the Bay covered by the proposed bridge.

Caltrans will mitigate for the project's environmental impacts through a combination of mitigation measures. Some of these mitigation measures are designed to avoid and minimize potential impacts at the site. Some of these measures, such as placing dredged material and sand in subtidal areas to restore the bathymetry of the areas disturbed in dredging the barge access channel to construct the replacement bridge, are intended to support the reestablish-

ment of eelgrass beds disturbed during construction. However, this mitigation measure appears to be inconsistent with the Commission's recently adopted dredging policies, which state that "to ensure protection of Bay habitats, the Commission should not authorize dredged material disposal projects in the Bay and certain waterways for habitat creation, enhancement or restoration, with the exception of a single pilot project at a site designated by the Commission and used in a manner consistent with the regulation designating the site, until: (1) the Bay Plan Marshes and Mudflats and Fish and Wildlife policies have been updated and any additional objective and scientific studies have been carried out to evaluate the advisability of disposal of dredged material in the Bay and certain waterways for habitat creation, enhancement and restoration. Those additional studies should address the following: (i) the Baywide need for in-Bay habitat creation, enhancement and restoration, in the context of maintaining appropriate amounts of all habitat types within the Bay, especially for support and recovery of endangered species; and (ii) the need to use dredged materials to improve Bay habitat, the appropriate characteristics of locations in the Bay for such projects, and the potential short-term and cumulative impacts of such projects; (2) the Commission has adopted additional Baywide policies governing disposal of dredged material in the Bay and certain waterways for the creation, enhancement and restoration of Bay habitat, which narratively establish the necessary biological, hydrological, physical and locational characteristics of candidate sites; and (3) the pilot project authorized under this section, if undertaken, is completed successfully." This authorization does not authorize the placement of fill to restore the bathymetry of the barge access channel, but does recognize the permittee may apply for an amendment to this authorization to allow such fill if the Commission's current policy is amended to permit such fill.

Some of the mitigation measures are intended to create habitat functions in areas where the project will otherwise provide limited resource values. In particular, Caltrans will slightly flatten the revetment slope and place earth fill among the rocks above the highest tides in the Oakland Touchdown Area in an effort to promote the establishment of an upland transitional habitat. Similar approaches have been tried with mixed results in the past.

Caltrans will create shorebird roosting habitat in an area where shorebirds are currently roosting on structures which are decaying and will eventually wash away.

Caltrans will also offset the project's adverse impacts and the unavoidable loss of habitat by contributing a total of $10.5 million toward the restoration of Skaggs Island and for the restoration of several potential sites in Eastshore State Park. A portion of this contribution is expected to fund the removal of contaminated buildings and allow the transfer of the approximately 3,298 acre Navy-owned portion of Skaggs Island to the United States Fish and Wildlife Service. Caltrans believes that restoring Skaggs Island will more than offset the habitat lost as result of constructing the new bridge. However, Caltrans' contribution will only be the first step in a series of steps that must occur before Skaggs Island is restored as habitat. Other steps that will need to take place before Skaggs Island can be restored to tidal action include: either acquiring an adjoining property so that the entire island can be restored, or maintaining a levee between the adjacent property and the Navy-owned portion to prevent the adjoining parcel from flooding with the return of tidal action to the Navy-owned portion of Skaggs Island; developing a restoration program; and assessing other potential contamination on site. Such a process will likely take years before any significant wetland habitat is created at Skaggs Island, which appears to be inconsistent with the Commission's policy stating that mitigation should be provided concurrently with those parts of the project causing adverse impacts. Restoration of Skaggs Island will most likely result in the creation of a tidal brackish marsh and seasonal wetlands, a very different habitat than the eelgrass beds and sandflats that will be adversely impacted by this proposed project, and thus would normally be inconsistent with the Commission's mitigation policy stating that the benefits from the mitigation be commensurate with the adverse impacts on

the Bay's resources. However, the restoration of Skaggs Island will undoubtedly create significant Bay resources on an ecosystem level that will benefit many Bay plants and animals including the endangered California clapper rail and the salt marsh harvest mouse.

This authorization is conditioned to allow a portion of the $10.5 million to be used to remove contaminated buildings at Skaggs Island provided that: (1) the money is used to remove the buildings in a timely manner (i.e. within two and a half years); (2) that only that amount of funds needed to remove the buildings is expended, with the remaining funds available for Central Bay restoration; and (3) that removal facilitates the restoration of Skaggs Island to a tidal wetland as part of an approved restoration plan and schedule. Because of the significant benefits to the Bay that will result from restoring Skaggs Island, and as conditioned to assure that the money is used to jump start the restoration, the Commission finds that the Skaggs Island portion of the mitigation program is consistent with the Commission's mitigation policy.

The remaining mitigation funds will be used to restore wetland habitat in Central San Francisco Bay. This could include improvements to Radio Beach, Brickyard Cove, Albany Beach or Hoffman Marsh in the proposed Eastshore State Park. Funds will be provided to the EBRPD to "restore, enhance, or create new aquatic habitat and transitional uplands within the central Bay." Mitigation in Central San Francisco Bay is more consistent with the Commission's and other resource agency policies. However, suitable restoration sites in Central San Francisco Bay are in short supply. Caltrans has spent several years investigating, and eventually, eliminating several potential Central Bay mitigation sites. The high cost of land and the existence of contamination at many of the sites make any sizable restoration in Central San Francisco Bay problematic. Still, it is Central San Francisco Bay that will be impacted by the project, and the relative scarcity of wetlands in the Central Bay makes any Central Bay wetland restoration highly desirable. While restoration in Central San Francisco Bay is likely to result in relatively small areas being restored to wetlands, because of the value of such wetlands to Central Bay resources, and because such restoration is consistent with the Commission's mitigation policies giving preference to mitigation occurring as close to the impacted sites as possible, the Commission finds that any effort to restore Central Bay sites as part of this project is highly desirable and consistent with the Commission's mitigation policies.

C. **Maximum Feasible Public Access.** Section 66602 of the McAteer-Petris Act states that existing public access to the shoreline and waters of the San Francisco Bay is inadequate and that maximum feasible public access, consistent with a proposed project, should be provided. In part, the Bay Plan policies on public access state that whenever public access to the Bay is provided as a condition of development, on fill or on the shoreline, the access should be permanently guaranteed, should be consistent with the project and the physical environment, and should provide for the public's safety and convenience. In addition, public access should be designed and built to encourage diverse Bay-related activities and movement to and along the shoreline, should permit barrier free access for the physically handicapped to the maximum feasible extent, should include an ongoing maintenance program and should be identified with appropriate signs. In considering whether a project provides the maximum feasible public access, the Commission should consider physical and visual access to the Bay shoreline, as well as the appearance and design of shoreline structures.

1. **Physical Access.** Currently, there is no pedestrian or bicycle access on the bridge. There is also limited physical access to the Oakland Touchdown area. Fishermen use the beach on the north side of the Oakland Touchdown and public access is authorized at Radio Beach. However, areas within Caltrans existing right-of-way are signed no trespassing and public access is not authorized.

To address the Commission's public access requirements, Caltrans will construct approximately 10 acres of new public access areas including: (1) a 2.18-mile-long, 15.5-foot-wide bicycle and pedestrian lane on the new bridge with six belvederes to provide viewing and resting opportunities for trail users, bicycle and pedestrian access that, when coupled with public access required as part of the Cypress project (BCDC Permit No. 11-93), will eventually connect the Oakland Touchdown with Emeryville; (2) a temporary public access parking lot near the Oakland Touchdown located south of the Eastbound lanes; and (3) a public access path terminus located on YBI. All of the proposed public access improvements will be accessible to the disabled and will be maintained and guaranteed for so long as the improvements authorized herein remain in place. BCDC Permit No. 11-93 (for the I-880/Cypress Freeway Replacement Project) required Caltrans to provide and maintain a bicycle and pedestrian pathway connecting the Cities of Emeryville and Oakland between Shellmound Street and Nelson Mandela Parkway, through the distribution structure for I-80, I-580, and I-880 to the Oakland Touchdown. Caltrans will connect the Class II bike path (a Class II bike lane is a striped bike lane on a roadway) to the interim parking lot located adjacent to the Caltrans maintenance road and these amenities will be connected to the Bay Trail. Permit No. 11-93 also required Caltrans to provide an approximately 5,000-square-foot overlook on the north side of the Oakland Touchdown area and an approximately 2,500-square-foot overlook on the south side of the touchdown, each with public amenities such as parking, restrooms, benches, a fish cleaning facility, trash cans, and native landscaping. However, the proposed East Span alignment will eliminate the area where many of these improvements would have been built. BCDC Permit No. 11-93 allows Caltrans to pay an in-lieu fee rather than construct the improvements, subject to BCDC approval. In addition EBRPD has plans to develop the Gateway Park on the south side of the bridge on former Oakland Army Base Reuse Authority property. Caltrans will pay an in-lieu fee of $1.1 million to compensate for the public access facilities required (two overlooks and associated amenities, the roadway leading to the overlook, and the parking area) by BCDC Permit No. 11-93, but which cannot be built because the proposed East Span will be located within the areas reserved for these improvements. Caltrans believes that these funds can provide the southern overlook required in Permit No. 11-93 and can support EBRPD's effort to develop Gateway Park at the Oakland Touchdown, or to support other public access in the City of Oakland.

This authorization also requires that Caltrans develop the land, for a stormwater retention basin and public park, directly south of the Oakland Touchdown that is currently occupied by the existing East Bay Bridge Alignment, but will be made available when the East Span is moved to the north. Caltrans is concerned that there is a reversionary clause for this land that requires that the land revert to the Port Of Oakland when it is no longer needed for highway purposes. However, the Regional Water Quality Control Board has indicated that the Board will likely require that a portion of this land be used to treat stormwater runoff from the toll plaza as part of the Board's waste discharge requirements for the new East Span. The Commission finds that this land is also needed to mitigate the public access impacts of losing the areas north of the Oakland Touchdown for public access improvements required in BCDC Permit No. 11-93 for the Cypress improvements. This authorization requires that this land be developed for both required uses (stormwater BMPs, existing and future utilities, access for bridge and roadway maintenance and public access), through the use of thoughtful design and landscaping. This authorization requires that the land south of the touchdown shall be planned, developed and maintained for landscaping, open space, and recreational facilities, compatible with the "Gateway Park," to be approved by or on behalf of the Commission in consultation with the EBRPD, the Oakland Base Reuse

Authority, the Port of Oakland and the City of Oakland. Only through such design can the Commission find that this portion of the public access program is consistent with the Commission's public access policies.

With respect to future public access connections to the West Span of the Bay Bridge and ultimately to the City of San Francisco, legislators provided that MTC could use bridge tolls under AB 2038 to design and construct a bicycle and pedestrian path on the West Span of the SFOBB for continuous access across the bridge. A Caltrans study determined that while it is feasible to construct a bicycle and pedestrian path on the West Span, it would cost between $160 million to $387 million, depending upon the alternative chosen. To date, no funding is available to continue the path across the West Span. However, this authorization is conditioned to require that Caltrans design the YBI terminus in such a manner to facilitate such a future connection, while serving as a terminus for the East Span bicycle/pedestrian path initially.

The DRB recommended that Caltrans provide more than the six belvederes that Caltrans proposed at 0.2 mile intervals along the bridge (beginning approximately 0.65 miles from the YBI terminus and the interim parking located at the Oakland Touchdown). The DRB felt that additional belvederes were necessary for the comfort and safety of trail users and that six belvederes would be too widely spaced to provide sufficient resting areas. Caltrans, however, believes that six belvederes are sufficient and that the project cannot support the cost of additional belvederes. Because of the project's significant cost overruns, and because of the high price tag for each belvedere, the Commission finds that although additional belvederes would be far preferable, the six required herein are a reasonable compromise between providing an important public access benefit and respecting the high cost of the public access improvements provided, particularly the bicycle/pedestrian path across the East Span and the belvederes.

The DRB also recommended that Caltrans provide seating at the belvederes. Caltrans contends that seating at the belvederes cannot be provided because of excessive loads associated with the addition of seating and lack of funding limitations. This authorization requires light-weight-benches at each of the belvederes, located near the edge of the pedestrian path and facing the Bay, to provide seating opportunities for trail users. The Commission finds that such seating elements will be relatively low cost, can be safely incorporated into the belvedere design, and will provide an important public access amenity.

The DRB suggested that Caltrans consider different alternatives for separating cyclists from pedestrians along the path. Due to budgetary constraints, design considerations, and safety concerns, however, Caltrans chose to address this last concern through the use of "visual cues" such as different colored surfaces differentiating the pedestrian portion of the path from the bicycle lanes and lane lines rather than a safety barrier. Initially, no speed limit will be imposed on bicyclists and a safety review will be implemented at a later date to monitor the effectiveness of the proposed safety delineation on the bicycle and pedestrian path. Caltrans designed the bicycle and pedestrian path with input from the Bay Bridge Bicycle and Pedestrian Advisory Committee (BBBPAC). BBBPAC believed that a physical separation, such as a barrier, between pedestrians and bicyclists may cause more accidents than would be prevented. The Commission concurs that, at least initially, this is a reasonable approach for separating potentially conflicting uses, pending future review of problems that may occur.

Finally, Senate Bill 60 (SB 60) prohibits the Commission from requiring Caltrans to develop a public access pathway with the replacement of the East. However, subsequent legislation provided funding for the bicycle/pedestrian path across the East Span and such a path is specifically authorized herein. This authorization also requires that the path be maintained by the permittee in a clean and safe manner, and that the path connect

to other required public access areas, or be designed to allow such connections in the future. The Commission finds that such requirements are consistent, with the Commission's public access policies, Assembly Bill 2038 (AB 2038) which allowed for funding the bicycle/pedestrian path across the bridge, and SB 60.

The Commission finds that, as conditioned, the physical public access program required and authorized herein is the maximum feasible consistent with the project.

2. **Visual Access.** Caltrans worked with the Commission's DRB to maximize visual access on the new structure. The items of particular concern to the DRB were the bridge barrier railing and the railings located along the pedestrian path.

The existing safety barriers on the existing East Span are solid steel and approximately 39.5 inches high (1-meter-high). As a result, they impair views to the Bay for many motorists. Caltrans proposed to use a modified Type 732 bridge barrier railing that would be 32 inches high. The lower height will improve views of the Bay for all motorists. The barriers will be smooth on both the inside and outside faces with no articulation. The majority of the proposed safety barrier will be concrete, except a portion of the skyway and the entire main span, which will be steel.

Several possible railings were evaluated for the bridge. Because this is a scenic roadway, where superb views of the Central Bay are possible, BCDC staff and the DRB recommended that Caltrans evaluate more transparent barriers, such as the California Type 80 barrier or an Alaska Barrier. Since some views through the bridge barriers will be impaired by the adjacent parallel superstructure or the elevated bicycle and pedestrian path, such transparent barrier railings would primarily provide clearer views along the north side of the westbound structure. However, Caltrans intends to locate utilities in the barriers, a common practice that would be less feasible in the more transparent barriers because of the reduction in the space available for such utilities. In addition, Caltrans states that crash tests of these barriers had not been completed during the design phase of "see through" barriers on bridge decks like those proposed for the East Span. Since then, crash tests have been completed and both the California Type 80 and Alaska barrier have been approved for use by Caltrans. However, Caltrans contends that the need for accommodating utilities in the railing, and the need to avoid delays in constructing the project that would likely occur with design revisions, supports their proposal for a solid barrier. Because of the critical importance of this bridge to the Bay Area's health, safety, welfare and economy, and because of the importance of replacing the existing structure as soon as possible with a structure much less likely to fail in a major seismic event, the Commission reluctantly concurs.

The project will include a 55-inch railing height for the bicycle/pedestrian path. The DRB recommended lowering the path railing from 55 inches to 48 inches to expand views of the Bay, enhance public access and improve the pedestrian scale of the path. The DRB requested that Caltrans provide the Board with empirical data showing the lowest possible safety railing that would provide enough protection for pedestrians and bicyclists. More specifically, the DRB requested that Caltrans provide evidence that a 48-inch railing height would not provide the needed safety for the public.

Caltrans provided recommendations and guidelines from AASHTO and Caltrans' standards established to provide safe conditions for the public. AASHTO establishes nationwide policies and standards. AASHTO standards require that the minimum height of a railing on structures must be 54 inches. The 54-inch rail height was one of several standards adopted by Caltrans in 1978 as part of its development of the Planning and Design Criteria for Bikeways in California. Caltrans formed a committee, composed of engineers, bicyclists (League of American Wheelmen, California Association of Bicycling Organizations), public agencies and safety experts, to establish design standards to facilitate the development of bicycle facilities in California. This committee used its

expertise to study and develop bicycle facility design guidelines. With respect to bridge railings, the committee developed an estimated center of gravity for an assumed large bicycle with a tall rider, added a safety factor to deal with high impact or broadside accidents, and concluded that 54 inches was an appropriate rail height to insure bicycle rider safety. To date, the work done by the committee remains the only study of the issue. As a result this authorization allows the rail adjacent to the bike path to be a maximum height of 55 inches. Unless other studies of the height of rails necessary to assure bicycle/pedestrian safety are completed within the time frame where revisions to the rail are possible, the Commission concurs that safety should be the primary concern of rail height. Thus, because the only extant study determined 54 inches was the appropriate, safe height, the Commission finds that such a height is consistent with its public access policies.

3. **Appearance and Design**. The Bay Plan's policies on appearance, design, and scenic views, which are largely advisory, state that "maximum efforts should be made to provide, enhance, or preserve views of the Bay and shoreline, especially from public areas." As a result of the East Span Replacement Project, there would be several significant visual changes along this corridor. The project would introduce a new suspension bridge and skyway bridge north of the existing bridge, and would remove the existing superstructure, towers and foundations following construction completion. Caltrans has incorporated the recommendations of the Commission to achieve design consistency between the superstructure and the approach structures, to bring the design details of the towers down to the railings and other bridge elements, and to maximize motorist and pedestrian views from the bridge. The steel pedestrian railings will have bollards that are spaced approximately 33-feet-apart on the main span and approximately 26.2-feet-apart on the skyway with some variation. The bollard placement and design are integral to the cantilever beams that support the path. The railings will be further divided by angle posts spaced every 11 feet apart and square pickets spaced 4-inches apart. The DRB was concerned that the railing design did not share enough of the architectural vocabulary of the tower, piers and other bridge elements and Caltrans attempted to address the DRB's concerns to the extent practicable. Due to cost, maintenance, and structural constraints, Caltrans concluded that it could not accommodate all of the Board's recommendations.

   Since Caltrans' last presentation to the DRB, there have been a number of design changes. These changes affect the appearance and design of the outer railings on the pedestrian and bicycle path. The railings have been re-designed to simplify the railing and to address concerns regarding the ability to clean and paint the interior surfaces of the posts. The bollard design has not changed in size, but has changed in its appearance due to engineering constraints associated with the expansion and contraction of the steel bike path segment. In addition, the design of the bollards has changed such that the top rail is continuous at one side of the bollard and the post design was modified to be square tube steel set at right angles to the bridge in response to previous EDAP direction to simplify the design. The original DRB design recommendation of the bollard was to unify the railing with the structure of the bike path and to provide a visual rhythm along the pathway. The aesthetic recommendations may be compromised by the fact that the proposed design of the bollard segment will appear asymmetrical.

   The DRB also requested a more detailed description of the lighting and specifically asked for an explanation of the methods of lighting the main span and the reasons for varying the height of the light standards. Consistent with EDAP's recommendation, the replacement bridge will be illuminated exclusively (except for bollard lighting) with metal halide fixtures to produce a cool white light rather than the warm yellow tones of

the low-pressure sodium lights found on a typical freeway. The roadway lighting will result in a constant level of light for the entire length of the bridge and from a distance there will be a rising line of white lights punctuated by the main tower.

The Commission would have preferred for Caltrans to return to the DRB, as the DRB requested, and discuss the changes to the project that had been made in response to the DRB's concerns, and the reasons other requested changes could not be made. However, because these are advisory policies that Caltrans largely attempted to meet within its budgetary constraints, and because Caltrans modified those portions of the design that will not have adverse effects on safety, maintenance and budget, the Commission finds that the project is generally consistent with Bay Plan policies on Public Access, Visual Access and Appearance and Design to the extent practicable.

4. **Transportation.** In part, the Bay Plan policies on transportation state that if a route must be located across a waterway, the following provisions should apply: (a) the crossing should be placed on a bridge or in a tunnel, not solid fill; (b) structures should provide adequate clearance for commercial ships, Navy ships, and pleasure boats to have uninterrupted passage at all times; (c) toll plazas, service yards, or other ancillary features should not be located on new fill; and (d) to provide maximum ultimate capacity on any new route that is allowed over or under a waterway (and thus to minimize the number that have to be allowed in the Bay), the design of the route should, if feasible, accommodate future mass transit facilities and subsequent installation automatic power and guidance elements for vehicles.

   The East Span replacement crossing will be a steel suspension bridge connected by a cast-in-place or pre-cast, post tensioned concrete "skyway" and cast-in-place prestressed approach structures. Approximately 45,572 cubic yards of fill covering approximately 03 acres of Bay surface area at the Oakland Approach will be part of the Bridge.

   a. **New Bay Crossings.** The new East Span will be a pile-supported bridge, designed to minimize fill impacts, and thus, the Commission finds it to be consistent with this requirement of the Bay Plan's transportation policies.

   b. **Adequate Navigational Clearance.** The USCG has determined that the replacement bridge will not impact marine traffic, and thus, the Commission finds it to be consistent with this requirement of the Bay Plan's transportation policies.

   c. **Toll Plaza and ancillary features.** The existing toll plaza, which is mostly located outside of the Commission's jurisdiction, will not be affected by the replacement project, and thus, the Commission finds it to be consistent with this requirement of the Bay Plan's transportation policies

   d. **Light Rail (LRT) and Heavy Rail on the Replacement Bridge.** With the cooperation of local and regional transportation agencies, Caltrans evaluated the constraints and opportunities for providing heavy and light rail transit (LRT) as part of the East Bay Bridge Replacement Project, . Caltrans has also considered the studies and recommendations given by various planning organizations, such as the MTC, and it has prepared its own studies to consider multi-modal transportation, HOV lanes and other transportation improvement strategies. Due to various constraints, which primarily are budgetary, and due to the nature of the costs to retrofit the West Bay Bridge, Caltrans determined that design allowances for heavy rail on the new structure is not a viable option at this time. However, the existing West Bay Bridge originally was designed for light rail transit traffic and the costs associated with retrofitting this bridge should be substantially less than for heavy rail. Caltrans has also designed loading on the East Span to accommodate future LRT. Heavier vehicles, such as high-speed rail or commuter heavy rail similar to BART, could also be

accommodated but would require substantial modifications to the current design or a future retrofit to this proposed structure. Caltrans also estimated the cost and other requirements of accommodating rail transit across the proposed structure in both LRT and heavy rail configurations and made a determination that one travel lane and one shoulder in each direction would have to be converted, therefore reducing the capacity of the East Span to four vehicular lanes, and some structural modifications would be necessary. Since multi-modal strategies would reduce the number of mixed flow traffic lanes, the selected strategy would have to capture an amount of ridership that matches the loss in mixed-flow vehicular capacity on the SFOBB and its approaches. The accommodation of rail and five lanes of traffic would require significant modifications to the current design and is not within the current scope or budget of this project. Caltrans and other transit agencies have not identified any project funding to accommodate a future rail transit connection across a replacement bridge other than the LRT provisions included in the East Span Replacement Project. The decision to implement any other rail accommodation option will be based on funding, on a selected strategy that would have to capture an amount of ridership that matches the loss in mixed-flow vehicular capacity, and on the time required to accomplish the necessary design and construction activities. Finally, a replacement structure is not a new route across the Bay, as used in the Bay Plan's transportation policies. In addition, SB 60 prohibits local and state permitting authorities from imposing any requirements that a mass transit facility be constructed on a replacement bridge for the East Span as a condition of any permit. For all these reasons, the Commission finds that additional transit facilities need not be provided on the new span in order for the East Span Replacement Project to be consistent with this portion of the Bay Plan's Transportation Policies.

e. **High Occupancy Vehicle (HOV) lanes on a New Span.** AC Transit had requested that Caltrans study an HOV lane on the SFOBB. Caltrans evaluated such a facility in October 1994. The "MTC SFOBB Rail Feasibility Study" identified preliminary estimates on the cost of SFOBB rail, structural modifications to the East and West Spans, and possible service operating scenarios. The study did not estimate potential ridership or identify environmental constraints.

Unfortunately, no funding currently exists or is likely in the immediate future, to support construction of an HOV lane on the new East Span. None of the previous planning studies identified an HOV lane on the SFOBB as a preferred strategy. It has not been included in the MTC's 1994 Regional Transportation Plan (RTP) or its 1996 and 1998 updates, including a 1999 amendment. The planning horizon for the RTP is 20 years. MTC could include the multi-modal strategies in future RTPs if the projects are consistent with local and regional objectives and strategies for congestion management, but the bridge will already be constructed by then. In addition, neither multi-modal option was included in a recently enacted statewide funding package for transportation improvements (Governor's Traffic Congestion Relief Program, July 2000). Finally, SB 60 prohibits local and state permitting authorities from imposing any requirements that a mass transit facility be constructed on a replacement bridge for the East Span as a condition of any permit.

Because no funding is available for HOU lanes on the East Span now or in the forseeable future, the Commission finds that the East Span Replace project is consistent with the Commission's transportation policies to the maximum practicable extent.

5. **Dredging.** In part, the Bay Plan policies on dredging state that dredging should be authorized when the Commission can find that: (a) the applicant has demonstrated that dredging is needed to serve a water-oriented use or other public purpose; (b) the materials to be dredged meet the water quality requirements of the RWQCB; and (c)

important fisheries and Bay natural resources would be protected In addition, the disposal of dredged materials should be encouraged in non-tidal areas where the materials can be used beneficially, or in the ocean.

Caltrans will dredge a total of 616,721 cubic yards of material over a 99-acre area to construct the new bridge and remove the existing bridge. The replacement bridge is a water-oriented use under the McAteer-Petris Act and the *San Francisco Bay Plan* and is necessary to meet current seismic and traffic safety requirements. Some dredging will be required for the temporary access trestles and cofferdams. Caltrans performed testing and analysis of the dredge sediments under the requirements of the Dredge Materials Management Office. Caltrans completed the Investigation Report (Amended Sampling and Analysis Plan) in June of 2000. Although the report concludes that the materials will be appropriate for disposal at the approved DODS and SF-11 disposal sites, Caltrans will dispose some of the materials at an approved upland site consistent with the RWQCB's 401 permit. Caltrans received its 401 permit from the RWQCB on October 17, 2001, the day before the Commission's public hearing on the project. Caltrans will retain some excavated material from dismantling dredging for reuse in restoring the construction barge access channel near the Oakland Touchdown, if the Commission authorizes such disposal.

The USACE is currently processing Caltrans' Section 401 (Clean Water Act) permit. In conjunction with its 401 permit, Caltrans has concluded its consultation with the USFWS but has not concluded its formal consultation with the U. S. National Marine Fisheries Service (NMFS). Caltrans is currently working with NMFS to establish, in accordance with Section 7 of the Endangered Species Act, appropriate mitigation to address potential fish kills due to pile driving operations. NMFS is also very concerned about the project's potential impacts to existing eelgrass beds, which are important fishery habitat. In addition, NMFS is critical of the mitigation proposed for eelgrass habitat and believes the mitigation program should specifically provide for in-kind offset to these impacts.

Special Condition II-F-9 requires Caltrans to continue to coordinate with appropriate wildlife agencies to minimize impacts to fish during construction activity and to provide additional mitigation if monitoring indicates that fish kills are occurring that are related to pile-driving activities. In addition, Special Condition II-D-4 requires that dredging should not occur between December 1 and march 1 of any year to avoid potential disturbance of herring spawning in the area. The project, in consultation with the National marine Fisheries Service and the California Department of Fish and Game, also includes a number of mitigation measures, such as using a bubble curtain to reduce fish kills from pile-driving activity, and creating a mitigation fund for salmonids. For all these reasons, the Commission finds that the project is consistent with the Bay Plan's requirements that dredging and construction activities be conducted in such a manner as to protect important Bay fisheries.

Caltrans will dispose approximately a third of the dredged material at SF-11 (Alcatraz), a third at the approved deep ocean disposal site, and a third at either Hamilton or Montezuma Wetland Restoration sites, if those sites are available, and to deep ocean if they are not. Disposal of dredged materials associated with dismantling the existing bridge will be reconsidered in a few years when the Hamilton or Montezuma sites may be ready to receive materials. Disposal of the dredged materials at landfills for use as daily cover will be avoided as it would generate multiple trips to these sites with smaller volumes of dredged materials, resulting in significantly higher costs and traffic and air quality impacts.

In addition, Special Condition II-F-8 requiring that Caltrans make every effort to dispose as much dredged material as possible that is suitable for such use at upland reuse sites. Because disposal of dredged material will occur at upland sites wherever and whenever possible, or at the Ocean disposal site, the Commission finds that the disposal of dredged materials generated by the project is consistent with the Commission's Long Term Management Plan for Dredged Material.

Finally, while using dredged materials to fill the barge access channel at project completion and planting the channel with eelgrass is currently inconsistent with the Commission's dredging policy, this authorization specifically recognizes that Caltrans may amend this permit to allow such use of dredged material should the Commission amend it's dredging policy to allow such use.

6. **Consistency with YBI Park Priority Use Designation.** Yerba Buena Island (YBI) is designated as a park priority use area in Bay Plan Map No. 4. It is important to recognize that the existing bridge extends over and has footings and piers within the park priority use area. Because the new bridge would replace the existing double deck bridge with two parallel spans, each slightly wider (because of shoulders and the public access path) than the existing span, the new bridge would cover a greater portion of the park priority use area on YBI.

   Because this authorization requires Caltrans to provide a trail terminus for the bicycle/pedestrian bridge on the East Span, because the existing span over the island will be removed and the new span will not cause an appreciably larger impact on the island, and because the bridge will cover as little of YBI as possible because of the Commission's minimum fill requirements, the Commission finds that the East Span Replacement Project is consistent with the park priority use designation for YBI.

D. **Review Boards**

1. **Engineering Criteria Review Board.** The ECRB evaluated the proposed engineering criteria for the project on June 13, 2000 and concluded that Caltrans' design criteria for seismic safety were adequate.

2. **Design Review Board.** The Commission's Design Review Board evaluated the proposed project at its September 11, 2000 and November 6, 2000 meetings. The Board supported the bike trail and the proposed belvederes, but felt there should be more belvederes than the six proposed, that seating should be provided at the belvederes, and that Caltrans should consider various alternatives to minimize potential conflicts between bicyclists and pedestrians on the bridge. The Board also requested more information to support Caltrans' contention that a lower railing (48 inches high instead of the proposed 55 inches) would be unsafe along the Bridge path, and that more transparent bridge railings along the roadway were infeasible. The Board requested that Caltrans develop more detailed information about how the bridge path would connect to paths in Oakland and Emeryville. The Board also made a number of recommendations regarding the bridge appearance, recommending that Caltrans explore low cost means of making the bridge white and suggesting changes to the bridge lighting. The Board asked that the project come back to the Board so the Board could make a final recommendation. Caltrans made some modifications to the bridge in response to the Board's comments, but decided that many of the Board's comments would be too costly to implement within the budget. Thus, the project was never taken back to the Board and the Board has not reviewed the latest project revisions.

E. **Environmental Review.** According to Caltrans, pursuant to the California Streets and Highways Code Section 180.2 and the California Environmental Quality Act (CEQA) Section 21080, the East Bay Bridge replacement project is statutorily exempt from the requirement to prepare an environmental impact report. CEQA Section 21080, subdivision (b) sets

forth the types of activities that are excluded from CEQA and paragraph (4) of this subdivision specifically includes actions necessary to prevent or mitigate an emergency. According to the California Streets and Highways Code, as amended, the structural modification of an existing highway structure or toll bridge (Section 180.2(a)); and the replacement of a highway structure or toll bridge within, or immediately adjacent to, an existing right-of-way (Section 180.2(b)) shall be considered to be activities under subdivision (b), paragraph (4) of CEQA. Caltrans has concluded that the East Bay Bridge Replacement Project meets the definition of Section 180.2(b)--that it is a "specific action necessary to prevent or mitigate an emergency"--and, therefore, does not require any environmental review under CEQA.

Nevertheless, pursuant to the National Environmental Protection Act and federal permitting requirements, Caltrans prepared an Environmental Impact Statement (EIS) for the proposed project. The U. S. Department of Transportation, Federal Highway Administration, and Caltrans, in cooperation with the USCG, published the Final EIS in May 8, 2001, and the approved the Record of Decision in July 11, 2001. The Final EIS identified several project impacts including the displacement of residential units, the loss of wetlands, new Bay fill, noise, use of historic structures and visual effects. The EIS also imposed several mitigation measures including habitat creation, historic recordation, and aesthetic design of the new bridge and roadway structures.

F. **Public Trust.** The approximately 45.53 acres of suspended, solid and pile supported fill for the bridge is for a water-oriented use and to improve public access as defined by Section 66605 of the McAteer-Petris Act. Fill for water-oriented uses and public access is consistent with the public trust. Thus, the Commission finds that the fill is consistent with the public trust.

G. **Conclusion.** For all of the above reasons, the benefits of the proposed project clearly exceed the detriment of the loss of water areas and the project will provide the maximum feasible public access to the Bay and its shoreline. Therefore, the project is consistent with the San Francisco Bay Plan, the McAteer-Petris Act, the Commission's Regulations, and the Commission's amended management program for the San Francisco Bay segment of the California coastal zone.

IV. Standard Conditions.

A. All required permissions from governmental bodies must be obtained before the commencement of work; these bodies include, but are not limited to, the U.S. Army Corps of Engineers, the State Lands Commission, the Regional Water Quality Control Board, and the city and/or county in which the work is to be performed, whenever any of these may be required. This permit does not relieve the permittee of any obligations imposed by the State or Federal law, either statutory or otherwise.

B. The attached Notice of Completion shall be returned to the Commission within thirty (30) days following the completion of work.

C. Work must be performed in the precise manner and the precise locations indicated in your applications as such may have been modified by the terms of the permit and any plans approved in writing by or on behalf of the Commission.

D. Work must be performed in a manner so as to minimize the muddying of waters, and if diking is involved, dikes shall be waterproof. If any seepage returns to the Bay, the permittee will be subject to the regulations of the Regional Water Quality Control Board in that region.

E. The rights, duties, and obligations contained in this permit are assignable. When the permittee transfers any interest in any property either on which the authorized activity will occur or which is necessary to the full compliance of one or more conditions to this permit, the permittee/transferor and the transferee shall execute and submit to the Commission a

permit assignment form acceptable to the Executive Director. An assignment shall not be effective until the assignee executes and the Executive Director receives an acknowledgment that the assignee has read and understands the permit and agrees to be bound by the terms and conditions of the permit, and the assignee is accepted by the Executive Director as being reasonably capable of complying with the terms and conditions of the permit.

F. Unless otherwise provided in this permit, all the terms and conditions of this permit shall remain effective for so long as the permit remains in effect or for so long as any use or construction authorized by this permit exists, whichever is longer.

G. Unless otherwise provided in this permit, the terms and conditions of this permit shall bind all future owners and future possessors of any legal interest in the land and shall run with the land.

H. Unless otherwise provided in this permit, any work authorized herein shall be completed within the time limits specified in this permit, or, if no time limits are specified in the permit, within three years. If the work is not completed by the date specified in the permit, or, if no date is specified, within three years from the date of the permit, the permit shall become null and void. If a permit becomes null and void for a failure to comply with these time limitations, any fill placed in reliance on this permit shall be removed by the permittee or its assignee upon receiving written notification by or on behalf of the Commission to remove the fill.

I. Except as otherwise noted, violation of any of the terms of this permit shall be grounds for revocation. The Commission may revoke any permit for such violation after a public hearing held on reasonable notice to the permittee or its assignee if the permit has been effectively assigned. If the permit is revoked, the Commission may determine, if it deems appropriate, that all or part of any fill or structure placed pursuant to this permit shall be removed by the permittee or its assignee if the permit has been assigned.

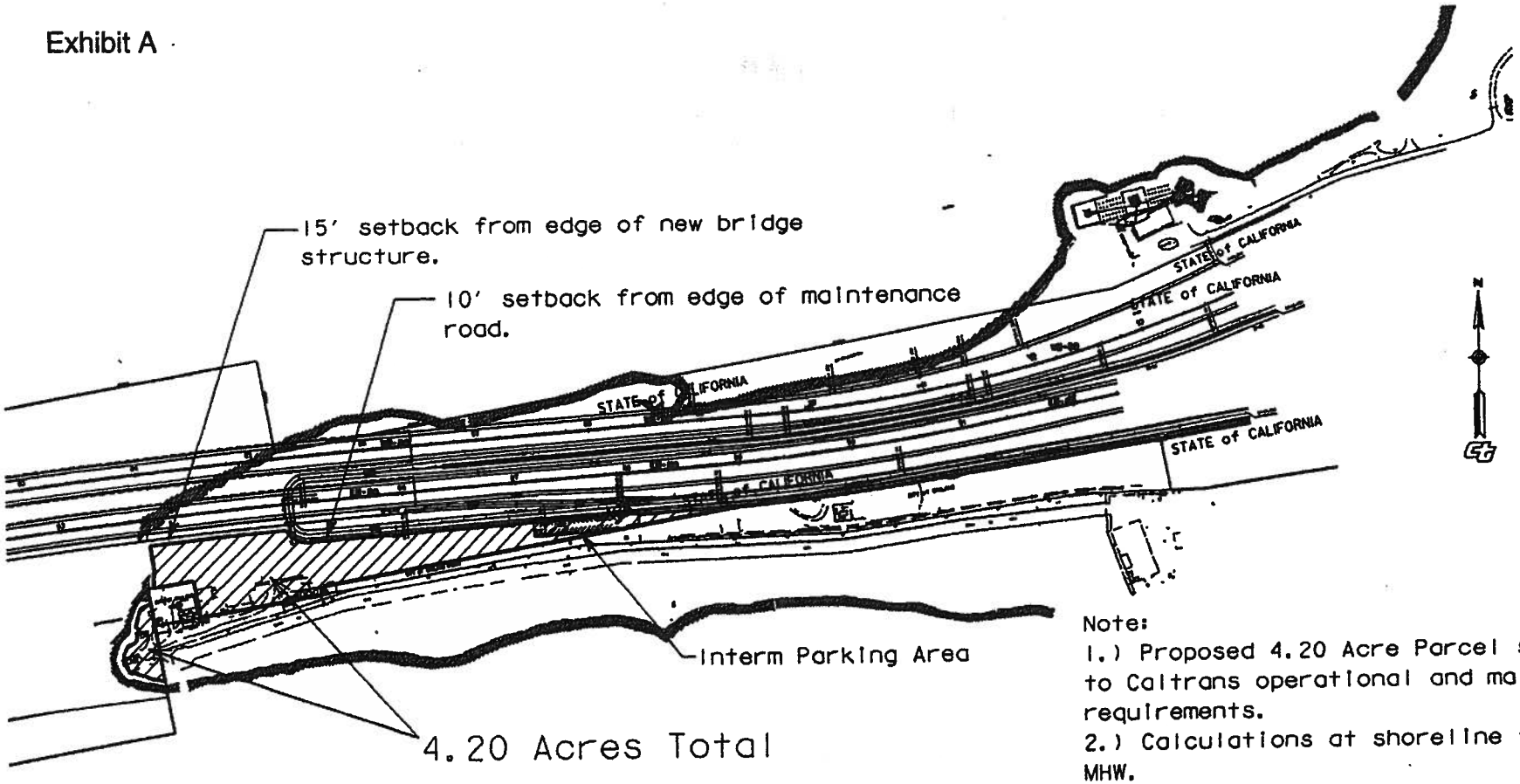
K. This permit shall not take effect unless the permittee executes the original of this permit and returns it to the Commission within ten days after the date of the issuance of the permit. No work shall be done until the acknowledgment is duly executed and returned to the Commission.

L. Any area subject to the jurisdiction of the San Francisco Bay Conservation and Development Commission under either the McAteer-Petris Act or the Suisun Marsh Preservation Act at the time the permit is granted or thereafter shall remain subject to that jurisdiction notwithstanding the placement of any fill or the implementation of any substantial change in use authorized by this permit.

M. Any area not subject to the jurisdiction of the San Francisco Bay Conservation and Development Commission that becomes, as a result of any work or project authorized in this permit, subject to tidal action shall become subject to the Commission's "Bay" jurisdiction.

N. Unless the Commission directs otherwise, this permit shall become null and void if any term, standard condition, or special condition of this permit shall be found illegal or unenforceable through the application of statute, administrative ruling, or court determination. If this permit becomes null and void, any fill or structures placed in reliance on this permit shall be subject to removal by the permittee or its assignee if the permit has been assigned to the extent that the Commission determines that such removal is appropriate. Any uses authorized shall be terminated to the extent that the Commission determines that such uses should be terminated.

Exhibit A



Note:
1.) Proposed 4.20 Acre Parcel subject to Caltrans operational and maintenance requirements.
2.) Calculations at shoreline taken at MHW.

100 m

PROPOSED PUBLIC ACCESS PARCEL at the OAKLAND TOUCHDOWN

10/29/01

Agenda Item #8

COPY

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October 17, 2001

PND 00443.01

David Woodbury, NMFS
Christina Fahy, NMFS
Gary Stern, NMFS
Keith Lichten, Regional Water Quality Control Board
Becky Ota, California Department of Fish and Game
Nathan Newell, Bay Conservation and Development Commission
Marian Cazorla, Coastal Commission
Jack Miller, California Department of Fish and Game
Sarah Allen, San Francisco State University
Emma Grigg, San Francisco State University Seal Survey
Mike Monroe, USEPA
Joan Bollman, FHWA

Dear Colleagues,

Peratrovich, Nottingham, and Drage, Inc. (PND) would like to thank all the agency participants for their time before, during and after the August 16 meeting with CalTrans regarding the noise attenuation project for the Oakland Bay Bridge. As you know, Gunderboom did not participate in the preparation or presentations of the PIDP or the Gunderboom system during that meeting. PND does not feel that the most significant and relevant issues were discussed to the appropriate depth and that some issues were ignored or miscommunicated. We believe this tone is carried through the Fisheries Impact Assessment (FIA) report issued August 2001 by CalTrans. Neither PND nor Gunderboom provided information or reviewed the draft reports on the PIDP prior to finalization.

Gunderboom and its consultants have spent a significant amount of resources to understand how noise travels in water and what elements of noise are damaging or harmful to fish and mammals. The Gunderboom system utilized in the sound attenuation demonstration project was modified from other designs for shock wave attenuation from underwater explosives. Gunderboom and its consultants have continued to educate themselves on how to further modify the system to produce a system that is even more effective than the pilot boom system. These modifications do not include the addition of more air or compressors to supply air. Please note that there is little additional "engineering" that can be applied to the air bubble curtain system, the only other alternative presented. The only modification is to increase the number of rings with them at different elevations in the water column to try to keep the bubble curtain intact to the surface during tidal changes. With or without additional rings, CalTrans is proposing to force more air through the system. This will also require the **addition of more compressors** in order to supply a sufficient amount of air to create the dense bubble curtain. It is likely that the contractor will need up to three additional compressors which means there will be **three times the emissions**

over the two year life of the project. The use of more machinery is contrary to California policies to reduce environmental pollution and would actually increase air and noise pollution. The bubble curtain is only mildly effective in decreasing damage and harassment to marine life, even in the best of conditions, and is **not effective in the mitigation of contaminants and debris**. During the agency meeting, the science of noise was not discussed in depth and the understanding displayed by most of the presenters did not demonstrate a high level of understanding of the factors that affect noise travel in water and impacts on fish. This means that there are insufficient tools and analyses to effectively evaluate which system or alternative is the best option on a purely scientific basis. This also means that CalTrans is not properly equipped to produce a cost benefit analysis that is meaningful. At this time the analysis only evaluates the bottom line cost of the system and not the effectiveness per dollar spent.

The focus of the August agency meeting was noise attenuation. It is true that the Gunderboom system was requested for the PIDP as a noise attenuator, for which the system performed with excellence. However, very little discussion was focused on the main attributes of the Gunderboom system and the other benefits it provides. The original and most common use of the Gunderboom is for sediment and petroleum control. This point was quickly mentioned but never expanded upon. The pile driving operation creates a quantifiable amount of sediment and debris. The **air bubble curtain system will re-suspend sediment during normal operation**. This is a function of the construction and can be **equated to aeration dredging**. This is not an issue for the Gunderboom system because the fabric contains all sediment inside the system. Also, CalTrans did not discuss that there will be a **risk of sediment released** during other phases of the project. After the piles are driven, the contractor must remove the sediment inside the hollow pile before filling it with concrete. This dredging operation has a risk of introducing sediments to the environment that would be contained inside the Gunderboom system. This is not a function that the air bubble curtain system can provide. In fact, **the air bubble curtain will tend to raise the sediments off the bottom of the Bay and place them in suspension in the water column.**

Another extensive use of the Gunderboom system is for fish and mammal exclusion. In other applications, the purpose of the Gunderboom is to prevent fish in all stages of life from entering an area where they may be trapped and killed. This aspect of the Gunderboom system was not well discussed at the meeting or in the reports. CalTrans also did not discuss if the bubble curtain is effective in excluding marine life during the life of the project. The air bubble curtain system is shown to effectively stop fish from passing into an area but this is only true when the system is turned on. It is highly unlikely that the contractor will leave the compressor on after pile-driving activities cease. Leaving compressors operating after pile driving operations cease would also be contrary to California environmental policies of pollution reduction. Without continuous operation of the air compressor, fish and other marine life could move close to the pile then be trapped when pile driving activities begin again. Please note that Gunderboom has provided CalTrans with design enhancement that will accommodate uneven bottom conditions, which is the only place where marine life could enter the system.

CalTrans representatives mentioned that the Gunderboom system is difficult to handle and deploy during the meeting. This sentiment is also reflected in the final FIA report. The reality is that the Gunderboom system had to be implemented during the middle of the work effort to maintain CalTrans' accelerated timeline. The template had to be removed from the water prior to

the Gunderboom system test because the template was used for other pile driving tests prior to the Gunderboom system test. In fact, in a normal construction contract these **coordination issues would be dealt with in advance** and the use the **Gunderboom system would be implemented in a manner that is convenient to the contractor and consistent with the work plan.** In a real use situation the system would be in place prior to the first deployment of the template. It should also be kept in mind that the **attachment of the Gunderboom system to the template was a design modification to assist the contractor** because the contractor was not aware that the crane barge had to be very close to the pile to accommodate the heavy pile-driving hammer. The Gunderboom system that was proposed in the bidding was a floating system that would have been maneuvered and handled in a much different way than the template-mounted system. Information about the original floating system is available for review for those who are interested in the original design. This aspect of the project led PND and Gunderboom to comment in the Gunderboom report on the PIDP that proper implementation of the system was tied to appropriate prior planning between Gunderboom and the contractor. Proper prior planning eliminates most arguments we have seen in the CalTrans reports.

CalTrans states that the air bubble curtain would be easier to use because it does not need to be attached to the template. PND believes that this statement is not wholly accurate because the air bubble curtain system will need additional rings at several elevations in the water column in order to increase its effectiveness. Some sort of system will be necessary to suspend the rings at different elevations in the water column. It is interesting to note that CalTrans appears to be proposing to use a system that has shown little history of effectiveness, was probably used in the past because it was the BTA at the time though it is not now, and because the system is inexpensive. In essence, CalTrans will be "field engineering" a system continuously through the project in an effort to use a cheap technology at the start of the project.

CalTrans also states in the FIA that the Gunderboom system is only suited to areas with a flat bottom but the air bubble curtain is adaptable to any type of topography. This statement is not accurate and in fact CalTrans requested Gunderboom's solution to this issue, which was provided to CalTrans shortly after the PIDP was completed. This solution includes a flexible membrane at the bottom of the system specifically to accommodate uneven bottoms. The Gunderboom system is designed for each project and engineered to meet the needs of project. The bottom topography of the project is always considered in the design phase and the system will incorporate the information on the bottom topography into the final construction of the system.

The FIA also discusses the maintenance and ease of use of the two systems. CalTrans claims that the air bubble curtain system is easier to install and easier to maintain. Yet they state in the FIA that the State of Alaska no longer requires the use of air bubble curtain systems for noise attenuation because they are usually improperly used. The FIA states that the Gunderboom system would have to be removed in order to make any necessary repairs but makes no statement on this point regarding the air bubble curtain. In fact, the Gunderboom system is easily repaired in situ in most instances. It is much more likely that the air bubble curtain system will need to be removed from the water in order to repair and modify the rings as the repairs will likely require resins or epoxy. The air bubble curtain system broke when the contractor attempted to remove the ring at the completion of the test. There was no damage reported or a need to repair the

Gunderboom system at any time during the test, even after being hit by one of the barges. CalTrans states that they have greater economy of scale in terms of multiple use and adaptability with the air bubble curtain system but that is not shown in any tests or previous uses by other projects. It stands to reason that PVC pipe is not designed to withstand the pressures of being taken in and out the water and that the contractor will either continuously break the ring system or have to build extensive supports that may reduce its ease of use and adaptability. PND and Gunderboom have already discussed how to design the Gunderboom system for multiple uses, to include reuse of some mechanical devices and systems that will fit multiple templates. Final design is dependent on the construction techniques and needs of the contractor. The FIA also does not address the likely need for additional levels of rings in the air bubble curtain system. Multiple rings and air compressors will require more planning and maintenance than the PIDP test package.

The FIA discusses the costs of the two noise attenuation systems, something that was lacking at the August agency meeting. CalTrans claims that the air bubble system will be significantly less expensive than the Gunderboom system. They state that the air bubble curtain will have few "time consuming delays" but that the Gunderboom system will likely have quite a number of time consuming delays. PND has pointed out in previous portions of this letter that this statement is not accurate and that there are in fact **obvious drawbacks to the air bubble curtain system including increased air emissions, fish mortality, and resuspension of Bay sediments.** Conversations with agency representatives indicates that if the air bubble curtain is used they expect several modifications will be necessary during the pile driving because the test air bubble curtain was not effective. This would lead one to believe that this is not the BTA. This leads to costly delays as the contractor will not or should not be allowed to work on the piles during the re-design and re-construction of the bubble curtain rings. Furthermore, agency personnel are skeptical that the air bubble curtain system will function well enough to satisfy the law and that CalTrans will likely have to install the Gunderboom system after the project begins. In addition, CalTrans has claimed that the Gunderboom system is too expensive based solely on the PIDP and estimates they formed in-house. We understand that CalTrans has claimed that the Gunderboom system will likely be in the $20,000,000 range. This estimate by CalTrans has not been reviewed by Gunderboom and is significantly higher than preliminary estimates Gunderboom delivered to the agencies. As an example, Gunderboom did provide to David Woodbury, NMFS, an estimate of between $2-$4,000,000 for a complete system including studies, drawings, construction, and technical assistance during pile driving. Having CalTrans and Gunderboom work together to integrate the technology into the proposed project could easily derive a more complete and realistic estimate for the Gunderboom system for the Bay Bridge project.

In summary, PND does not feel that CalTrans has accurately represented the facts between the two noise attenuation systems tested during the PIDP last year. CalTrans appears to promote the use of the seemingly inexpensive air bubble curtain system in a technical document. However, the facts are not fairly represented and **PND believes that, in fact, the air bubble curtain system will cost more than the Gunderboom system during the life of project and that the air bubble curtain system will not be effective in mitigating the damage to the environment.**

We would suggest that the material that both PND and Gunderboom have assembled be presented to the agencies so as to bring a more complete picture of the effectiveness and ease of use of the Gunderboom Systems. We feel that it will become evident that the Gunderboom system is the most cost effective method to mitigate all the environmental aspects of this project. For your convenience I have attached a report by the Alaska Department of Fish and Game that summarizes the literature on noise affects on fish.

PN&D and Gunderboom invite your comments regarding the Gunderboom system. We also look forward to presenting the information we have learned to you in a presentation format. Please feel free to contact myself at the PN&D offices at 503-325-1250 or contact either Hal Dryer or Jim Miner at the Gunderboom offices at 907-644-0600.

Best Regards.
PERATROVICH, NOTTINGHAM, & DRAGE, INC.

Jennifer J. Wilson, MES
Environmental Scientist

Cc: H.B. Dryer, Gunderboom, Inc.

Attachment: "Environmental Impact of Seismic Exploration and Blasting in the Aquatic Environment" by L. Trasky.

→ HTL

JOHN DAVIDSON

ENVIRONMENTAL IMPACT

OF

SEISMIC EXPLORATION AND BLASTING

IN THE AQUATIC ENVIRONMENT

Note: Report at BCDC for review.

by

Lance L. Trasky
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October 16, 2001

Barbara Kaufman, Chair
San Francisco Bay Conservation and Development Commission
50 California Street, Suite 2600
San Francisco, CA 94111

Dear Ms. Barbara Kaufman:

I am writing to urge your support in expediting the remaining permits and approvals for replacement of the Bay Bridge eastern span. I am pleased that the California Department of Transportation has worked in partnership with regional, state, and federal authorities to advance this important seismic-safety project and satisfy all relevant regulations.

This project will replace the existing East Span to ensure a safe and dependable connection between San Francisco and the East Bay in the event of a major earthquake. The project will improve Bay water quality by removing a historic source of lead-based paint contamination and will increase Bay water volume through removal of dredged sediments and demolition and removal of the existing eastern span structure.

The bridge project will construct nearly 6 acres of new public access and Bay Trail connections and will provide a bicycle and pedestrian path from Oakland to Yerba Buena Island. Direct beneficiaries of these seismic safety, water quality, public access, and habitat improvements include the Bay's natural environment and travelers and residents of San Francisco, the East Bay, the Peninsula, and other communities.

Caltrans has taken several steps to accelerate project delivery. The project was advertised on July 16, 2001 and the first bid opening is scheduled for November 14, 2001. The state must have all regulatory permits in hand before bids may be opened, construction contracts may be awarded, and work may begin. Governor Gray Davis recently signed AB 1171, which I supported, to complete a fair and equitable funding package for the project.

I urge you to join your colleagues on the other boards and commissions to work with us in expediting this critical seismic safety project.

Sincerely,

Tom Torlakson

October 16, 2001

Chair Kaufman and Commissioners
Bay Conservation and Development Commission
50 California Street, 26th Floor
San Francisco, CA 94111

Re: Support for the Bay Bridge East Span Replacement Project

Dear Chair Kaufman and Commissioners:

The San Francisco Bay Trail is a planned and existing 400+-mile bicycling and hiking path that will encircle and cross San Francisco and San Pablo bays. It will connect the shoreline of nine counties and 47 cities and cross seven toll bridges in the region. I am writing today to applaud the outstanding public access features included in the proposed Bay Bridge East Span Replacement Project and to express our organization's support for the approval of this permit application.

When Caltrans announced plans to replace the east span of the Bay Bridge with a new structure, many recognized it as a once-in-a-generation opportunity to provide bicycle and pedestrian access on this critical span. We are delighted that a separate pathway will be an integral part of the proposed east span, providing access between Oakland and Yerba Buena Island. The proposed bicycle and pedestrian design features were developed in close consultation with advocates on the Bay Bridge Bicycle/Pedestrian Advisory Committee as well as MTC's Engineering and Design Advisory Panel.

There are two outstanding components needed to realize the vision of a completed Bay Trail across this span: (1) ensuring viable connections to Yerba Buena Island and the East Bay, and (2) securing consensus and funding to complete a path on the West Span. The Bay Trail Project will continue to work with the cities of San Francisco, Oakland, Emeryville and the East Bay Regional Park District to ensure safe connections on both sides of the bridge and with other parties to identify funding for a pathway on the West Span.

Once again, we offer our support for approval of this project.

Sincerely,

Janet McBride

Janet McBride
Bay Trail Director

Administered by the Association of Bay Area Governments
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Statement of Oakland Base Reuse Authority Executive Director Aliza Gallo to the San Francisco Bay Conservation and Development Commission on BCDC Permit Application No. 8-01 October 18, 2001

Good afternoon, Chairperson Kaufman and Commissioners,

My name is Aliza Gallo, Executive Director of the Oakland Base Reuse Authority, or "OBRA." On behalf of OBRA and its Vice Chairperson, Oakland City Council Member Nancy Nadel, who represents the West Oakland area, I would like to offer the following comments on the Department of Transportation's Bay Bridge replacement plan from the perspective of the master planning process to develop the Oakland Army Base for the city of Oakland and for the Bay Area public.

The Oakland Base Reuse Authority is the public entity charged with carrying out the conversion and reuse of the Oakland Army Base, which was closed by the Army four years ago, in September 1999. We expect conveyance of the Army Base to the City of Oakland as soon as May 2002. The economic development of the Oakland Army Base, with a job creation potential of up to 7 thousand new jobs, will benefit the entire region, and will be a unique opportunity for the City to create a vibrant new public space and signature entryway into Oakland and the East Bay.

OBRA worked closely with Commission staff to amend its Oakland Army Base Reuse Plan to meet the cargo throughput requirements stated in BCDC's San Francisco Bay and Seaport Plans. In January of this year, we came before you to request an amendment to BCDC's plans -- to reflect the changes we made in OBRA's land use plan for the Army Base. The result is a plan which surpasses BCDC's Year 2020 cargo throughput target by enhancing maritime support services. The new plan will place an expanded Joint Intermodal Terminal, to be developed by the Port of Oakland, on the east side of the Army Base. The City of Oakland's economic development footprint will lie primarily on the Bay side, including the Army land along the southern side of the Oakland Touchdown of the San Francisco/Oakland Bay Bridge. Because of its proximity to the East Bay terminus of the Bay Bridge, the City's development will be called the "Gateway Development Area."

Part of OBRA's plan for the Gateway Development Area is a 15-acre Gateway Park, to be located at the western end, or "Spit," of the south side of the Bay Bridge. OBRA has supported the East Bay Regional Park District in its application to the Army to acquire this land through a Public Benefit Conveyance. The establishment of a well-designed, enhanced public park on the Spit will be a significant public amenity and an attractive entry point to Oakland and the East Bay. Furthermore, we support the Park District in its vision for an expanded park, which will join the Eastshore State Park, provide public access, and create a continuous greenbelt.

OBRA, on behalf of the City of Oakland, also has been working with Caltrans to accommodate its access and work-staging needs during its Bay Bridge replacement project. We commend Caltrans for its responsiveness to the City's concerns -- through its plans for bike and pedestrian access on the new span; belvederes for resting and taking the views; and for its artful pier design and lighting.

However, we wish to remind BCDC that Caltrans' property, including its maintenance facility, at the eastern anchorage is adjacent to Army Base land which will be developed by a number of public agencies. The City is very concerned that Caltrans' ultimate design for the eastern waterfront be consistent with our master planning effort for the Gateway Development Area and Gateway Park. Highly important to the final outcome should be:

- Park land – Caltrans should dedicate all usable land to the development of the Gateway Park
- Public access – to the new East Span and to the Gateway Park, as well as a connection to the Bay Trail and Eastshore State Park.
- Design features – for compatibility with a distinctive and visually-pleasing entrance into the East Bay. It is important that all of the Caltrans facilities be updated and visually integrated with the modern new span and the Gateway Development;
- Public amenities – to increase permanent public access – for foot, bicycle, disabled and vehicular visitors. For example, the temporary 43-car parking lot planned for the touchdown area, needs to be a permanent amenity. There are also historic amenities, such as the old Key System building, that should be upgraded and made part of a permanent public interpretive center on the rich history of Bay Area public transit, including the new Bay Bridge project. Also, Caltrans has an obligation to work with other public agencies to provide attractive signage to enhance the public's ability to use and enjoy the new park.

We believe that these public improvements generated by the Bay Bridge replacement project must be funded by Caltrans.

Today, we are asking BCDC to ensure that Caltrans include a commitment, both financial and planning, to integrate its bridge replacement work AND its final design -- into the planning for the City's Gateway Development and the East Bay Regional Park

District's Gateway Park. We believe that Caltrans' obligation to the public includes being a full participant in the process.

We urge all of the public entities involved in developing this critical piece of public waterfront -- including Caltrans, the Port of Oakland, the City of Oakland, the East Bay Regional Park District, and BCDC -- to coordinate their respective planning with the overall goal of integrating an enhanced new park, accessible waterfront, new Bay Bridge project, and the economic development of the Gateway Area, into a unified and coherent space.

Thank you very much.

ALIZA GALLO, EXECUTIVE DIRECTOR
OAKLAND BASE REUSE AUTHORITY
October 18, 2001